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ABSTRACT

This retrospective compilation of speeches and ideas by Viktor Lowenfeld is representative of his work between the years 1946 to 1960 and reveals his concern with the importance of creativity in education. Nine chapters present Lowenfeld's thoughts: (1) "On the Significance of Individual Creative Expression"; (2) "On the Discrepancy Between Our Scientific and Social Values"; (3) "On the Importance of Early Art Expression"; (4) "On Fostering Creative Sensitivity"; (5) "On Integration in Art and Society"; (6) "On Creativity in Education"; (7) "On Research and the Creative Process"; (8) "On the Adolescence of Art Education"; (9) and "On Stereotypes and the Insecure Child." (MM)

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Viktor Lowenfeld

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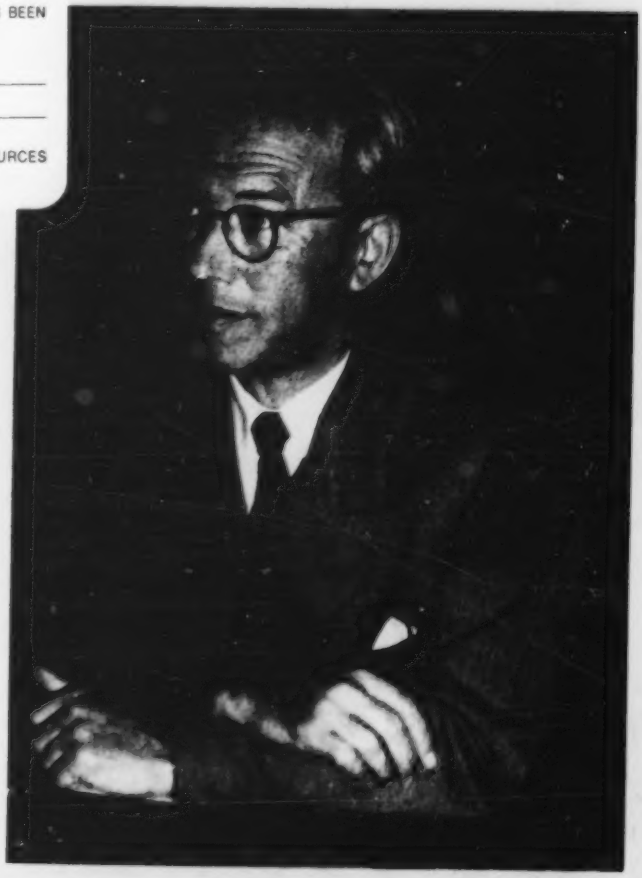
Speaks on Art and Creativity



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Following the death of Viktor Lowenfeld in 1960, a large number of friends, associates, and students created a fund in his honor. A portion of the fund was designated to be used at Penn State for the development of a sculpture court. This beautiful little court is now complete and enjoyed daily by the many people who pass through it or stop to rest on its benches. The larger portion of the fund was designated to be used to stimulate national interest in research and scholarship in art education. That portion was turned over to the National Art Education Association to administer. The interest from the invested fund has provided the Lowenfeld Lectures given by leading scholars at each of the NAEA Conferences. These lectures in turn have been the basis for some of the research monographs published by the NAEA. It is appropriate now that some of these funds be used to support this publication. Although less than a decade has passed since Viktor Lowenfeld's death, it is not too early to carefully review the writings of this remarkable man.

Edward L. Mattil

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Viktor Lowenfeld

Speaks on Art and Creativity

Edited by
W. Lambert Brittain

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From the time Viktor Lowenfeld came to The Pennsylvania State University in 1946 until his death in 1960, he brought about the growth of a powerful center of art education. Graduate students flocked to study under him from all parts of the country. I was one of the earliest of those students. I was personally attracted by the strength of my professor; his personal involvement in the problems of art education far surpassed that of any instructor I had had in my undergraduate days. His warmth and sincerity, coupled with the feeling that he was talking directly to you, was hard to resist. As the Department of Art Education grew at The Pennsylvania State University, he surrounded himself with an able staff and his department became well known as a center for research in art education. Having heard him speak a number of times, I felt a drive to put some of his speeches into a form where others, too, could enjoy them. Many have contributed to the collection of recordings that was the basis for this small publication. I am deeply indebted to those throughout the country who have freely contributed the copies of speeches, without which the task would have been impossible. Each of these people shares with me the satisfaction of seeing these put in tangible form. Special acknowledgment must be made to Mrs. Viktor Lowenfeld. It is only because of her interest and support that I undertook this task. She unselfishly gave permission for the tapes to be transcribed and clearly saw the value of having these available in published form. I am certainly pleased to have been able to have a part in assembling and editing these speeches, with the thought that any criticism about their organization must rest squarely with me. I sincerely hope that the reader will gain at least a fraction of the pleasure that I have had in preparing these for publication.

W. Lambert Brittain
Cornell University

7 Introduction

9 On the Significance of Individual Creative Expression

14 On the Discrepancy Between Our Scientific and Social Values

20 On the Importance of Early Art Expression

28 On Fostering Creative Sensitivity

33 On Integration in Art and Society

37 On Creativity in Education

44 On Research and the Creative Process

51 On the Adolescence of Art Education

57 On Stereotypes and the Insecure Child

Introduction

Viktor Lowenfeld continues to exert influence and to be the center of controversy in art education. Without question, he was looked upon as the leader of his field.

In his travels across the country, Viktor Lowenfeld made many speeches. His audiences were people vitally interested in the education of our children. These included students, teachers, parents, and psychologists. His talks were sponsored by universities, institutions, public schools, community organizations, and professional groups. His listeners were from every part of the country; the talks he gave were in cities big and small, from Boston to Los Angeles, from Chicago to New Orleans. In every case, his audience was enthralled with the intensity and involvement that the man had in his subject matter. In listening to him, there could be no question that art and self-expression was not only an important area but one which was a vital topic to mankind.

The subject matter for these talks was invariably the importance of the individual and his art expression. Viktor Lowenfeld always talked without notes. His subject matter was so much a part of him that he seemed to need only time and an audience for a talk. He was eager to bring the latest research into his discussions, and each of his speeches tended to have a feeling of urgency about it. Aside from content, Lowenfeld was a dramatic, forceful individual on the speaker's platform. The thousands who heard him could not help but be affected by his directness and logic of argument. When he was speaking, he was the authority. His Austrian accent, tall figure, and the ability to talk directly to his audience presented a powerful impact.

Fortunately, in several locations during the last four or five years of his life, tape recordings were made of his speeches. Some of these were of excellent technical quality, while others were barely recognizable as speeches. But each of these recordings has captured a little of the essence of the spirit of the man.

Although each talk had a clear title, it was surprising the number of times the talk itself had the same basic theme. In traveling throughout the country Dr. Lowenfeld felt it important to bring a strong message to his audiences. And the location of his talk did not make his message any less important. To a great extent, then, the tape recordings tended to be somewhat repetitious, but repetitious only in the material covered, for each audience received its own unique version.

In the following pages an attempt has been made to glean from many recordings the essence of what Lowenfeld was saying. In some cases, the speech appears almost unchanged. In other cases, the theme has been put together from several of his talks so as to make a coherent whole. He may have made an important point while

talking in Wisconsin whereas the illustration of this point was much more effectively explained while he was giving a speech in New York City. His more recent speeches were almost all concerned with the importance of creativity in education, but his asides were usually quite different, reflecting the interests of his audience. It is hoped that there have been no changes in the flavor and no tampering with the thoughts and ideas of Viktor Lowenfeld.

Although this little publication is primarily concerned with speeches, Viktor Lowenfeld would be well remembered even if he had given none. His contribution to education, and particularly to the field of art education, has been well documented elsewhere. Robert Saunders in a two-part article, "The Contributions of Viktor Lowenfeld to Art Education," carefully documented his work and development (*Studies in Art Education*, Vol. II, No. 1, Fall, 1960, and Vol. II, No. 2, Spring, 1961). Manuel Barkan at the National Art Education Association Meeting gave an address, "Viktor Lowenfeld: His Impact on Art Education" (Philadelphia, April 8, 1965). The major professional journals dealing with art and education have paid honor to him. A memorial garden is presently part of the complex of education buildings at The Pennsylvania State University, and a memorial lecture series has been financed by contributors.

Viktor Lowenfeld's publications were many; his numerous articles appeared in such journals as *Harvard Educational Review, Magazine of Art, Art News, Design, American Journal of Psychology, American Journal on Mental Deficiency, Progressive Education, School Arts, Bulletin of the American Institute of Architects*, and so forth. Of his books, the best known in this country are *The Nature of Creative Activity, Your Child and His Art*, and *Creative and Mental Growth*. At first glance, it may seem redundant to add to the literature of this man, but the spoken word can often have a freedom that the written word lacks. Also, the spoken speeches provide an insight into some of the thoughts and directions that were not yet formulated to the point where they could be published. In essence, then, we have here a picture of Viktor Lowenfeld which we can get in no other way. Ideas in the formulating stages, thoughts which were yet to be set down, responses to questions from the audience, and germs of new research possibilities are all here.

The chapters are arranged in no logical order. Essentially, each chapter combines thoughts on a particular topic. The titles are therefore prefaced by "On." For those who have listened to some of these speeches before and to those students who have had Dr. Lowenfeld as a teacher, the phrasing and word order will have a familiar ring. For those people not so fortunate, it is hoped that this book will open the door to the force of his thoughts and the power of his ideas.

On the Significance of Individual Creative Expression

Recently I addressed the International Society of Education Through Art in the Hague, where thirty-four countries participated, including the countries behind the Iron Curtain. There were exhibits of child art and adolescent art from the thirty-four countries in the large exhibition halls in the Hague. I expected what you would expect, if you went to see an exhibition by children from Russia. I came to the Hague and to this exhibit just as you might, expecting to find Russian children regimented according to the Russian doctrine. Shall I say I was greatly surprised when I saw a brilliant exhibit of Russian child art, just as free as our children can create, perhaps somewhat different, since our children probably are more bold and spontaneous. I'm referring now to the best that our children produce. Of course, I'm not blindfolded and know that what was exhibited there of Russian child art is also the best which they, in their views, have produced. When I looked at the Russian adolescent art, that is, the art of high school children, then it was entirely different. Here I saw paintings, all in a conventional water color style, all glorifying the history of the Russian revolution. They were all regimented in one direction, to serve propaganda, whether it was propaganda among adolescents or whether it was the doctrine which Russia wants to promote. But here we saw a complete change, a break from child art to the art of the adolescent. I was very much interested in what the leaders of art education in Russia would say to this. So I went to them and tried to engage in a conversation; in fact, we had many conversations while I was there, and I must say that the director of art of the city of Moscow is a very sensitive person and a very likable person. I asked him, "How come you are not using art education for indoctrinating your philosophy, your spirit of communism, into the children at the most formative stages?" He said, "Children?" He looked at me and said, "Children to us are sacred." I looked at him, "What do you mean?" "You see, when we had nothing to eat during the war, our children always had to eat. Our children we would not touch. We would like to unfold creativeness in our children, and we would like to promote in our children the imagination and the sensitivity of which they are capable. We would like to bring out everything that is in them, and we have realized that art is a very important subject in the elementary classroom. You know we do not allow any patterns in our schools." He volunteered this to me, you see; I did not start on that, and this in a way frightened me, because I realized at the same time the enormous amount of coloring books we promote here on the child level: not we, but, as you know, our department stores. We are using patterns in our coloring and work books, and we don't have it as easy as they have it. He said, "You see, in

our system this is prohibited; we couldn't do that." But then I asked him, "How is it possible that with this freedom which you allow your children for expression, you all of a sudden regiment them when they arrive at the high school level?" And he said, "You see, we are a very young country; we cannot afford to waste anything. Once creativeness is unfolded, we have to channel it, we have to discipline it, whether it is in the sciences or in the arts. For us nothing is useful that is not useful to the country."

Then immediately I understood why in Russia, contemporary art could never unfold. Do you see? Contemporary art, as we know it today, is somewhat the glorification of the spirit of the individual. In contemporary art, as it were, every individual artist has to create his own art form. He has to invent art as though it had never been invented before. In a free democracy we are emphasizing the individual. Art now, in its contemporary spirit as contrasted to the assembly line and to the means of mass communication, stands up and says the individual is one of the greatest weapons of the free society. This power of contemporary art has not even been realized by many of our educators, or by our society. But it stands out as a tremendous markstone, as a glorification of the spirit of the individual, and we have to realize it as such. The contemporary artist voluntarily goes into an exile of noncommunicability, out of the spirit to glorify the individual. This is not a conscious act by any means, but it is an act that belongs to the history of our era, of our civilization. And this is possibly the reason why no totalitarian regime has ever fostered contemporary art. As you know, contemporary art was burned by Hitler and is not allowed in the Soviet Union. Now here you gain a deep insight into one phenomenon. And this is that Russia is emphazing the creativeness of children in the formative stages. I venture to say, though I have no proof of this, but it may be one reason why Russia could succeed so very greatly in its scientific endeavors. We may well draw the conclusion: if we promote creativeness in the most formative stages of childhood, it will certainly be felt afterwards.

When a child paints a picture, there is no fooling. Now you see, when a child draws himself skating, he has to mentally go through all the motions while he is doing it. He has to recall in detail. And this is a very important intellectual process, to recall what we have seen. Some of our intelligence tests are based on this recall. So we have here our ability to recall things which were perceived. Now, the more intensely a child experiences things, the more he will recall. The more you can stimulate the child by definite experiences, the more you will bring out of him. Actually, most teaching consists of activating the child's passive knowledge, that which he has passively in him, but which he does not know until it has been brought out. Do you see? This is true for language—after being taught English,

a child should have a greater vocabulary than before, because he should have more words actively at his disposal than he had previously. The same is true of form. After an art experience, the child has a greater form vocabulary than he had before. Now from this we can see that the teaching of art is a highly disciplined kind of teaching, not a *laissez-faire* one in which we simply stand by and say to the child, "Well, do something," and whatever he does is O.K. Oh, no; the teacher begins where the child ends. We would be superfluous if we would merely watch. And this is what art teachers know, and what our wonderful elementary teachers do not know; they don't have the background for it, even though the elementary schools are really tops, more so than the secondary schools or universities; they are the most progressive institutions in this country, including the kindergartens, of course.

When recalling such a thing as skating, it is not only an intellectual process; the child relates himself to it, how he enjoys the movement of skating; he thinks of different motions. The child who is stiff and inflexible will create the same movement again and again in terms of stereotypes; he will be repetitive. The child who is flexible will create all different kinds of movements, so all kinds of emotional relationships come into play. If the child wouldn't observe and use his sensory experiences, he could not see the differences in color, the differences in shapes, in forms, so you see the whole child comes into play—his thinking, his feeling, and his perceiving. And because we have this unity of approach in art, I believe that in our educational system in the elementary schools, art is the main promoter for the unfolding of the creative potential.

For example, one topic that might be studied in the elementary classroom is: "How Animals Spend the Winter." Don't discuss how animals spend the winter with your children as an outsider. But ask your children how they would spend the winter if they were an animal and were exposed to all the cold, and how their food would be buried. "How would you feel if you were a bird and you would fly around and you would see no crumbs and everything was covered with snow? What would you do, Janice? You would be glad if you discovered in some shrubs a little red berry which still had a seed in there, and you would pick it—wouldn't you?—because it was still exposed and not covered by snow. So these berries, still on the shrubs, are a blessing for the birds." You see, closely identifying with the birds, you not only teach the children humanity, but you also teach them something about animal life, and it becomes a more important experience to them than if you merely teach in a dry way what birds do in winter. If you can create this intense feeling of self-involvement, how you spend your winter, and go into every detail, I think social sciences, history, botany, and zoology would become most exciting experiences.

I think it is very great that our children largely have the spontaneity that we in art education would like to see. It was a tremendous experience for me when I first arrived in the United States; I was seated in a backyard, and a neighbor's child came to me and said, "What's you doing, Viktor?" I looked at the child and said, "What?" "What's you doing?" he repeated. And I said I was looking at a book; and he said, "May I look at the book with you?" And he sat on my lap looking at some pictures. Now, you see, this is probably the only country in the world where such a thing can happen, and I'm not exaggerating. You see, that children and adults are in such close cooperation, and feeling is outstanding and very unique and a sign of the democratic spirit. Indeed, these are the great things, but we must not overlook the weak side.

One of the weakest spots is the plentifulness under which we suffer. May I say suffer, because I know that many of us don't even realize what we have and this means that we are depriving ourselves of the sensitivities which we should develop to our environment. Russian child art is less spontaneous than American, but more sensitive to detail, more decorative; but if I had to choose between the two, I don't know which I would choose, because I definitely know that our children at large, if I may generalize, are lacking some of the sensitivity toward detail. This lack is probably due to our high standard of living.

I'll give you an example of this. A few weeks ago, I gave a lecture in St. Louis, and at that occasion I visited one of my friends, a well-to-do physicist. He has two lovely children. I thought, "I'll select some toy before I visit them." I selected with great care—and may I say also, with love—some toys, two toys, one for the girl and one for the boy. Well, I really think now that these toys meant more to me during the process of selection than they meant to the two children. I really loved the toys. If I were a child I would love to play with them, but when I went to the children and said, "Alice, look; I've brought something"—it was a nice animal—Alice looked at it, and said, "Thank you," and put it with the rest of her ninety-nine others. And this is what we usually find in American families. The toy chests are just filled, and you can't buy anything, because everything is already there. This feeling of plenty deprives our children of certain sensitivities, the sensitivities for details. You know, I still remember when I was a child, and when I got something for Christmas, or for my birthday, I always had it close by my bed. In the morning it was the first thing I looked at to see whether it was still there. I wanted to have it, and it took me a long time to get used to something new. Today it is quite different. Most of the things we have are taken for granted and this deprives us of a great deal of our sensitivity to small details.

It is needless to say that neither the quality nor intensity of a

creative process depends on the material used. It solely depends on the intensity of the underlying experience. For it is basic to any creative process that it is based on an intense experience. It is here where we mostly fail. We try to explain techniques or materials and forget that we are human beings who live in experiences.

Any regimentation of thought or emotions plays directly into that kind of regime which we would never like to come to our shores, totalitarian regimes. Only there do individuals have no possibility to identify with their own individual needs. Only there do they have to succumb to mass treatment. But in how many schools do we see that our children are regimented in thought and emotions and relationships? Well, you see, there are flaws in our education.

We are no magicians in the promotion of creativity. We cannot promote it unless we ourselves, to a certain degree, are creative, and there begins the greatest difficulty. It's like love: I can give you a lecture about love, but unless you have been shaken by love and been deeply in love, once in your life at least, you won't know what I'm talking about. Is it true? Of course, those who have never been in love don't know what it means. Now the same is true with the creative process. Those who have never felt what it means to create out of a chaos something meaningful don't know what it means, absolutely not. I can go even further and say that those who have never been fascinated by it know it even less. To promote creativeness in itself should constitute one of the finest and most important tasks of art teachers in this great democracy.

The rapidly increasing mechanization of our industrial process will, according to available statistics, decrease our working time by ten percent as near as 1980. This means that leisure hours for man will increase; if he is not provided with creative motivation which actively involves him in a search for himself, he will more and more depend on sitting before his television set, parallel switched as it were with the rest of his fellow men.

Finally, I would like to stress my deep conviction that the aesthetic experience as well as the unfolding of the individual's creative potentials are only means to an end in the educational process. Wherever the emphasis lies in this process, the end must always be the promotion of human sensitivities and values, for our whole way of life and the future of man depend on it.

On the Discrepancy Between Our Scientific and Social Values

As you all know, the last few years have brought to education some great challenges. We are living now through one of the most exciting periods, probably, in the history of man. Changes are taking place which we cannot yet see in the right perspective; they will have influence on our life and the lives of others, especially in the future. We are living right through this important period, some of us probably not even noticing it, or not realizing its magnitude. But when you go out into the various parts of the country, into many states, a very basic question comes up. "How can we keep our advancements up with the advancements of Russia?" And immediately we feel, when we hear this question, that the undertone is mainly focused upon the tremendous achievements of Russia in the field of science, especially in the field of missiles. As we all know, they are far ahead of what we have been able to accomplish, and indeed it has brought this country to a hysteria which we have never seen before.

You and I know that no educational philosophies can be based upon fear or apprehension, because fear and apprehension will distort our image of the present, and what's more, the picture of the future. Therefore, it is very important that we take some inventory of the work we are doing and indeed of our educational methodology. Why is it possible that Russia, who twenty years ago still was trying to clean up rubble from the war, has in such a short time accomplished such tremendous achievements? In general, we don't visualize these tremendous achievements because we compare our present with their present and we do not see the tremendous curve of advancement which they have come through, compared with our curve of advancement. Because you have to realize that at the end of World War II, Russia's industry was partially ruined, while our industry was in high gear. In fact, we had to break our industry in order to come back to a peace-production based industry. In this relatively short time, Russia has not only built up an industry which depends on science, but has overtaken us. The clearer we see it the better, because this is no time for us to play ostrich and put our heads into the sand.

The sputniks have been of one advantage, namely, they have brought us to the point where we can realize what goes on in Russia and we can look straight at what we are up against. This I believe is very important, but we are still not realizing the whole issue, for we are overlooking one fact completely. Although it has been reported in news magazines that Russia during 1957 published five times as many book titles as we published here in the United States, you do not hear about this. This in my feeling is as grave, or even more grave, than the situation we face in the sciences. If I myself were to choose between power and knowledge, I would certainly choose knowledge

as the area that I would like to see most developed. It is one of the intrinsic powers of a democracy to take advantage of spiritual values, rather than of force. I venture to say if our spiritual power and our urge to gain more knowledge do not keep pace with the tremendous advancement which we have in the field of science, we indeed may land defeated in the midst of all the wealth this great country has produced.

This leads me to the question that we are all acquainted with—which is not a question of an isolated nature, because we face this question in every civilized country—the question of a gap which exists between our great scientific achievements and our social achievements. Scientifically speaking, we live in the future; we can in split seconds communicate around the globe, while socially we look backward into the past for our inspirations. As you know, Gothic churches are dwarfed between skyscrapers, and television sets are built in period cabinets, and nuclear physics buildings are housed in pseudo-Gothic style. These are discrepancies which symbolize the twist of the society in which we are living. Scientifically, we live in the future, but where we deal with communication of a human nature, then we probably are not as far as our fathers were, because we have forgotten to learn to know our immediate neighbors, and to communicate with them peacefully.

Our question, then, is a question of how it is possible that our education has come to this point. Let us be clear in our minds, that all that we have at the present time, our attitudes and our scientific achievements, are due to the education which we have been able to promote. I am considering education in the schools, education in the homes, and education through environment. There are only two influences, as you know; we learn from psychology that the one is environment and the other is heredity. Since we are not, thank God, influencing heredity in the human species, we are concentrating on the environment. Environment in the broadest sense is education. And, indeed, I believe that it is because of education that we have this tremendous gap between our scientific and our social achievements.

The next question that most logically arises is: What is it in education that has brought about this gap, this tremendous lack of understanding for social and spiritual values? For the cry of today is not for improving social sensitivities; the cry of today is still for an improvement of our scientific achievements. I am quite conscious of the fact that we must be militarily strong. We cannot afford at a time like this to lose our military power. But we should also know that no power is strong if it is not backed by a tremendous spiritual drive. And therefore we should also know that scientific achievements by themselves are without values if they are not carried by the spirit which this great democracy has promoted throughout the years.

What has brought education to this imbalance of scientific achieve-

ments and social values? As far as I can see and analyze it, I believe it is mainly due to the fact that we have been promoting in our educational system values which deal mostly with the accumulation of facts of knowledge. All our education, including elementary education, is still geared towards one phase of our growth, and that phase is intellectual growth: the phase which deals with learning, but learning in a rather narrow sense. Yet we all know that learning in life does not mean the accumulation of knowledge only, for we know very well that knowledge that cannot be used by a free mind will not be of help to the individual or to society. So apparently we are not developing the "whole individual." We are only giving this phrase lip service; we are still emphasizing mainly the three "R"s. We emphasize this accumulation of knowledge which indeed is important, rather than cultivate the use of our knowledge freely and creatively, or the use of our senses freely and creatively. We need to cultivate not only knowledge, but also our attitudes toward knowledge, and our attitudes in general toward the social and spiritual values of life. We are not dealing with these at all, neither in our teacher-training institutions nor in our schools. And we are still not awakened to the concept that this is a very important part of our life. In spite of the chemicals we have now, we still have an increasing number of mental and emotional disorders or maladjustments, and we still are on the upcurve in delinquency, especially juvenile delinquency. So something must be basically wrong in our education.

May I say that I disagree greatly with the point of view of promoting science by means of scholarships. I understand that scholarships are very important and necessary for needy students who would otherwise not be able to study, but to substitute scholarships for the drive and enthusiasm which is necessary to gain knowledge and achievement is entirely ridiculous. Enthusiasm for creativeness cannot be bought, not even with U. S. dollars. Enthusiasm and creativeness—and here may be the greatest contribution of education—must be developed, and not on the top level, but they must grow from the child. You would understand it very well if I would change the subject from science to religion and if I would say, "Let's promote better religion by means of scholarships." Do you see how it sounds?

We cannot promote enthusiasm or spiritual values, of which enthusiasm is a part, by means of money. Money is important indeed, but not to foster spiritual values. So we may have quantitatively more science, but we will not succeed in the quality and enthusiasm for it by the mere promotion of scholarships.

When I asked what is wrong, and said that I feel there is an imbalance between our social and spiritual values and our achieving quantitatively more knowledge, then I am not merely saying this as a criticism. I am saying it with the deep desire to change it. And inasmuch as I am mainly concerned with the issue which deals with the

unfolding of all capabilities in men through the arts. I would like to go into greater detail not only with the facts, but also with the methods which we may use in unfolding in man all potential abilities which are in him.

We will have to take issue with our educational methodology and look at it squarely, for we should know that while our achievements intellectually have grown tremendously and subject matter has changed, our methodology has still remained the same for the past one hundred years. So there is something basically wrong. Especially in institutions of higher learning, we are still using exactly the same methodology we used one hundred years ago. If it were not for the subject matter, someone who died one hundred years ago could step out of his grave and could go into any of our institutions of higher learning and he would face the same methodology he faced when he left his class. So it is here where we should change fundamentally. This means that we have to change from a teaching of subject matter to a *creative* teaching of subject matter so that our students will not only learn facts but also will gain the enthusiasm which is necessary in order to break through new boundaries. To use such facts with their own minds and individual needs—this is something which we still have to incorporate into our methodology, and we should start on the elementary level.

If I had the power and the money to basically change our methodology in the social sciences, I would first start with an institution for self-identification, an institution in which history, all history, is taught not by means of facts, but by putting ourselves into the place, the time, the environment, the situation in which a fact occurred, and study exactly the condition under which such an action took place. If I should like to understand, to learn the culture of another people, I would teach it, not by looking at them, but by putting ourselves into the cultural environment, the cultural atmosphere of India, of China, of Pakistan, of all the people all over the world. And then, all of a sudden, we would have a different feeling for them. Now we look at them with our pockets full, in an environment of plenty, and say of the Chinese, "The poor Chinese, they have only rice and nothing else to eat." Well, is this true? And is it good that we broadcast over there how much we have here? Is it psychologically sound? Is it good for them? Does it create good relationships? Indeed not! Just imagine how you would feel if you were poor or had nothing and I would say that I have everything. Does this make things better? To the contrary! You see, either you would become envious or you would withdraw, or you wouldn't understand. At any rate there is an injustice; but if you put yourself into the place of the Chinese, you may arrive at an entirely different conclusion. You may find out that the Chinese do not have emotional or mental breakdowns in any such great numbers as we have them. You would also find out that they

are more content with what they have. Probably their happiness is a different kind of happiness from ours. We are happy when we have the newest car; probably they are happy when their whole family is gathered at home. Our families are spread out all over the country; there are different values applied here. We should not always think that our value system is the most valid one.

To identify ourselves with the needs of others is probably one of the most important prerequisites to a better world. So, when I say that the social sciences should be taught, I mean the arts; I mean the humanities; I mean history; I mean everything that relates to different cultures. Rather than learning facts, the social sciences should be taught by putting ourselves into the place of others. And this we do in every art process. Probably art is the only subject in education which promotes empathy, one of the most important prerequisites for becoming a good citizen, and by that I mean one who meaningfully cooperates and understands why he cooperates.

If it were not for art, perceptual sensitivity would not be cultivated in our schools at all, although we have learned from psychology that without perception there is no learning! Have you ever been in an institution for deaf and blind and mute people? Well, then you know what it means for a deaf blind individual to learn. One who is completely deprived of sensory experiences cannot learn. The logical conclusion from that would be to cultivate our senses, to refine our senses so that learning would be easier. Do we do it? No! If it were not for the arts we would not do it at all.

Some psychologists say that creativeness is one of the basic drives, a drive without which we cannot exist. There are basic drives of a physical nature and of an emotional nature. For instance, a basic drive of a physical nature would be breathing; you see, we cannot live without breathing. Another one would be suckling; the baby, without being taught, suckles. So without this drive we could not survive. There are a number of such drives. Usually we are born with our drives; they are not taught, but they may develop afterward, like smiling, or laughing; these develop much later than crying, as you know. The newly born baby cries, but he does not smile or laugh. And one of the psychologists who promotes this idea says there is also a drive to investigate and explore. Without this drive we would not be able to survive: we would touch fire and we would not learn from it. We investigate things merely to gain from our reactions in our future life. This drive to investigate and explore and draw from it new conclusions is the creative drive. We know that creativeness belongs to all human beings.

These considerations may very basically influence our whole methodology of thinking, not only for teaching art, but teaching languages, teaching mathematics, and teaching the sciences. And we will replace the mere teaching of subject matter with a new kind of creative

inquiry into subject matter, which will add subject matter, but in such a way that we can flexibly use it. I believe it is here that we are missing, and it is that to which I referred in the very beginning when I said that I believe that our education has failed in bridging the gap between our social and scientific advances.

Out of the discrepancy between the child's concepts and our adult feeling that the child belongs to us, result most of the difficulties which we have in the understanding of the child's creative work. It is his art, although we believe that the child belongs to us. One of the greatest differences between parents and those who are interested in the special field of art education is that parents would like to see their children do "nice work," yet we teachers are mainly interested in the child. Now, isn't that very peculiar, that we are interested not as much in the work the child produces but more, much more, in the effect which the work has on the child. So we look at the child first and then at the work which he produces, while usually parents are inclined to look at work and see how the work pleases them. This is rather short-sighted. In ten or twenty years, it will no longer be important whether your child has produced a beautiful painting or drawing—by beautiful is meant pleasing to you—but it will be very important indeed whether your child has grown up with a happy childhood, and whether he has been creative in his approach to the vocation which he has chosen, and whether he is flexible in his life, whether he can adjust easily to new situations. In other words, it will be very important indeed whether, throughout his childhood, a good foundation has been laid for his growth, or whether he has become frustrated and now has difficulty in adjusting to his environment, in cooperating with others, or in his general happiness in life.

We shouldn't disregard these facts. And we shouldn't say, "What was good for my father is good enough for me." I don't think we should be as complacent as that, because we know very well what was good for our fathers is no longer good for us now, because our fathers have apparently not received a well-balanced education; because if they had, we would not have such statistics as we have now in regard to nervous breakdowns, social and emotional maladjustments, which are quite common in the nation today. There are some horrible, shocking figures, as you know. Five million out of our present population, five million citizens at some point or another, have a nervous breakdown in their lives. Five million. . . . Now that's a very, very shocking figure.

I read today in the Milwaukee newspaper that there was a psychiatric-neurological convention here in which it has been pointed out that the most important personality characteristics are laid down in early childhood; psychiatrists point out that they cannot basically change an individual at a later age and even have difficulty in changing him after puberty. Now, at such statements we should be alarmed. We should know then that early childhood is most important, and educators should also be alarmed about their responsibility, namely, that they have to take care of children and provide a well-balanced

education.

As I said before, most of the difficulties rise out of the misunderstanding by parents of their children. Parents always want the best for their children. Who does not? Of course; but you know that most of the difficulties which we have with our children result from our lack of understanding, from our inability to identify ourselves with their needs. To understand them and to identify ourselves with their needs is rather difficult because it requires all kinds of knowledges, knowledges about how the child thinks. What kind of thinking does the child apply? How does the child imagine things? We should know about his imagery. We should know how the child looks at things, how he perceives things. Does he see in the same way as we see, or does he see differently? How does he experience things: through perception, touch, or other sensations, or movement, kinesthesis? You know, one of the statements which Dr. Arnold Gesell at Yale made was that kinesthesis, the ability to use our body-movement or motions, is the very basis for communication and for our adjustments in life. I can well understand what he said when I think back a few months to when I was in Atlanta, Georgia, and visited an institution for cerebral palsy cases and saw there children and adults stricken by this terrible disease which does not permit coordination of our body movements.

Kinesthetic experiences are very basic to children. In order to learn to understand the child we should be able to know how the child experiences his body movements. Is it the same when he moves as when we move? Well, I don't know. We have to investigate in order to understand the child. We have to learn through observation or through his behavior and his reactions, whether these reactions are the same or refer to the same kind of experiences that we as adults have. We usually apply our adult experiences to children if we look at them, and that apparently is bad. You know the story? Mary came and said, "Our teacher doesn't even know a horse." She was very disappointed. But we said, "Well, your teacher's father has a farm, and there are lots of horses there; she surely knows a horse." And Mary insisted that her teacher doesn't know a horse. "Why can you say she doesn't know a horse?" "Well, because she didn't recognize one when she saw it on my drawing." Do you see? The child is so convinced of his own reality that he forgets that the teacher has another reality. And the teacher of course has her reality which she applies too often upon the child, and then she fails to meet the needs of the child.

What are the child's social needs? Well, do we know? Do we have it in our curricula? These are all questions with which we should be acquainted if we would like to meet the needs of our children.

These needs must be discovered in the very beginning. Without imposing upon our children adult standards, we should be able to promote their own efforts, their own potential abilities that are slum-

bering in them. When we see a child in some of his behavior, maybe scribbling on a piece of paper, we'll ask ourselves what the child is doing here. Actually, we know that the child is fulfilling one of his very vital needs. We know that the experiences of moving his arms and hands are very vital to him; in fact, in the very beginning, before a child is one, he lies in the cradle and kicks with his hands and feet as one form of expression, apparently. Movement is one of the forms of expression that he has at his disposal; besides that, he cries. Crying very often is greatly misunderstood. Mothers and fathers usually think that something is terribly wrong with the child when he cries. That doesn't need to be true. Imagine, the child doesn't have any other means to communicate than by crying. What else should he do? For him, crying means "I'm thirsty." For him, crying means "I have gas in my stomach." For him, crying means everything, because he cannot communicate in many different ways. If you are thirsty you say "Bring me a glass of water," and you won't cry, of course, because you have many other means by which you can communicate your needs. But the child in very early stages has no means but crying. So crying is a universal language for him which is difficult to understand because it is not a differentiated language.

At one point when the child is two, he may get a crayon in his hands or a brush and may start to scribble, to make motions, which, of course, also express the desire for movement. We can determine certain stages of development that are common for all children. We can say, "All children scribble in the beginning, and therefore we can speak of a scribbling stage." But we should never make the mistake of categorizing, because children are individuals and we should from the very beginning look at children as individuals and find not only their common needs but also their individual needs.

I think this is very important in times like these, in which the individual is endangered by all kinds of processes from within and from the outside. I'm referring here not only to the processes of politics, communism, or any kind of totalitarianism which denies the individual his right for expression, but I am also referring to the rapid industrialization which also undermines the individual. You only have to look down from the airplane, as I have, on the outskirts of Chicago or Washington, upon thousands and thousands of serial houses, all alike, assembly line houses, where people—you know in ten years this will be the slums—can only determine their houses by the numbers attached to them. We know from psychology that if we can influence individuals we have to do it through environmental conditions, because there are only two types of influences, heredity and environment. If we think of education as the major environmental influence, we know how such assembly line, equalization or serial products will influence us. Don't misunderstand; I see the blessings of the assembly line are very great indeed. But it would be terribly bad, shocking, if we suc-

cumbed to the assembly line, if we fell victim to it and could no longer be able to react as individuals.

Now that is why I said we should never forget in classrooms or at home that we deal with individual children. Let us always remember that they are individuals. When the child scribbles—all children scribble, but by the very way children scribble differently we can see much of their behavior, if they are allowed to scribble freely. It may happen that the child comes home and scribbles. He is very greatly concerned with his scribbling. First he enjoys his motions quite unconsciously. Later he discovers that he can control his motions and that there is a connection between the line he produces on the paper and the movements he makes with his arm. This is a great discovery for him, because at that time, unconsciously, he discovers for the first time that he can master his movements. Now, he gets lots of thrill out of it; and, of course, whenever we would like to show ourselves that we are able to master a situation, what do we do? We repeat it, again and again. You know how often you can tell a story to your children without their getting tired. Again. Again. Again. You know this is quite understandable for children, because of the desire for self-assurance, mastery of a situation.

The child in his scribbling also does the movement again and again. Whenever we see that the child does repeat his scribblings, we should be sure that the child at this time coordinates his motions. Some parents demand that the child eat properly at a time when motor coordination is inconceivable to him. That would be frustrating, just as frustrating as if you would be placed before a task which is inconceivable to you, only the child would be more frustrated. If you were placed before a task inconceivable to you, you could rationalize and say, "Well, I haven't learned that; after all, I'm not supposed to know that." So you can rationalize, but the child cannot. If a child is placed before a situation inconceivable to him, he will simply be frustrated.

Such a situation there might be if a child scribbles and you ask "What are you doing there?" and the child says nothing and continues with his scribbling. But you may insist and say, "Can't you draw an apple?" because you are eager for the child to produce something. Parents very often cannot wait until the child draws understandably. Scribbling is not anything that we can understand, you know. For the child the apple is something to eat, or to hold in one's hand, but an apple isn't something to draw. The child doesn't think visually at this stage; he doesn't think in terms of pictures, nor does he think that an apple can be projected on a plane. That is a different kind of thinking. The child of two or three thinks in terms of motions and that's all he can do. But you may insist, "Can't you draw an apple?" and the child will, of course, point at you and say, "You draw it." And now comes daddy or mother and draws a nice big apple. Why? Why? I ask myself, why?

We are very selfish in many ways because we like to see ourselves satisfied. We want the child to produce an apple, so we draw it for him. Now for the child the apple on the paper will not mean an apple, but merely a kind of a loop or lines. Next time the child may repeat such loops, and when you ask "What are you doing?" he will proudly say, "Apples." But you won't recognize them. You see, this leads early to frustrations. Why? The child was very busy and eager to get his motor coordinations established in his scribblings. Yet, you interrupted him in his activity, so the sensitive child who considers you as an authority will from now on have difficulty. He will not scribble anymore. He may ask you at all times, "Daddy, draw something, please draw something for me," because he has lost confidence in his own means of expression.

Now, later on, when the child discovers that there is a relationship between his drawings and the things outside of him, this relationship, too, will be determined by how much the child can conceive of his environment. The child does not intend to draw a beautiful picture. Oh no! The child's urge is merely to establish a relationship. "My daddy, my daddy is a big man. He has a head and two big feet and my drawing has a head and two big feet, therefore my drawing is daddy." This is real to him because this is the most significant relationship between his drawing and daddy. The child may, of course, know that his daddy has a head and eyes and a nose and a mouth and body or even a moustache. But at the time he drew, this was insignificant: he didn't have it ready while he drew. His drawings only show us the relationships which are significant to him. These relationships, however, may be inhibited or free, depending upon the upbringing of the child. It is most important that the child formulate his own thoughts, significances, not what is important to anyone else, but what is important to him so that he may confront himself with his own world of experiences.

During a convention in which 5,000 scientists gathered, they appealed to the teachers of this country to teach children to think more independently. Now look, this comes from an organization of scientists. They know what we know, that independent thinking is only possible in a free country. When our thinking is regimented, we lose our ability to express ourselves creatively. Now, they knew this, and therefore it was one of their most important appeals.

The thought process develops very early, and we shouldn't impose our thinking upon our children, but we do it in many, many different ways. One of the most devastating ways which we usually use in imposing adult thoughts on children is to furnish them with coloring books or tracing methods. It was not long ago that I was in an elementary school in a second grade in Pennsylvania and I saw around the classroom hectographed drawings of an Easter Bunny, and an Easter Egg, and an Easter Bunny, and an Easter Egg, all around. You

can see it everywhere in the nation, not only in Pennsylvania. Everywhere. Sometimes they are Dutch Windmills all around, as I saw in North Carolina when I was there visiting schools. In the second grade classroom I asked, "Mary, which is your Easter Bunny?" and Mary looked around and said, "I don't know." I said, "You don't know? Now look around." And Mary suddenly opened her eyes and said, "It's this." So I said, "How do you know?" and Mary said, "Because I had a dirty thumb, and you see it there in the corner?" Isn't it a horrible thought that a child should identify herself by means of a dirty thumb! This is actually fascism in the classroom. All children were regimented in one type of expression, and no child was allowed to express himself according to his own individual differences. Now this must never happen. Why? Well, first of all, if children are regimented, they lose their own identity. In fact, they have no relationship to what they do. In this state of mind a child cannot express what is important to him. He just takes over what he gets, and accepts it without discrimination. Now, you see there are many things involved. The child has no opportunity to develop his own thought processes.

We in schools, in kindergarten and in the elementary classrooms, try to encourage every child to identify himself with his own experiences and encourage him to go as far as he can in using a form vocabulary, as highly developed as possible. We are not satisfied if a child just draws a head and feet and says, "This is my daddy." For the time being we may be, because it gives us a clear record where the child's thinking and emotional feelings are at this point. So we know for this child it was only important that his father has big legs. Now this isn't a very sensitive relationship, so we would like to make this relationship a more sensitive one. Art education, to a great extent, consists of making relationships more sensitive. By relationships I mean relationships of the child himself to his own experiences, his own work, and to his environment. For instance, the child may be insensitive to himself, too. He draws himself only with a head and two legs, because he is only interested in establishing a relationship. When a child is four or five, it is most important to him that he discover, "I can draw something outside of me." Motions are his only concern. Now he draws something outside, daddy or a cow or a house, whatever is important to him. Then we try to make the child more sensitive. How? Not by imposing, never by imposing. We will not tell the child, "You forgot the mouth," or "You forgot the nose," or "You forgot the eyes." We'll never do that, because corrections or criticisms are never experiences with which the child can grow. They only discourage the child, and the child would have the feeling, "I didn't do it right." Now, one of the very important parts in human growth is the ability to discover things. In fact, psychologists consider discovery one of the basic needs. Without it, we wouldn't be able to exist. We see it in every child. If a baby gets a piece of paper in his

hand he will tear it, maybe to find out how strong it is; or he will discover its consistency, its textural quality, and so forth. Discovery, of course, never ends, as long as life remains flexible. It only ends when life becomes inflexible, when life becomes rigid. So discovery is one of the most important trends which is nourished in creative activity.

We foster new relationships by adequate motivations. For instance, if we were to see that a child continuously omits the mouth, we may bring the child a piece of candy. We don't even need something actual, you know. We can tell the child a story about how I ate my soup and it was too hot. "Did you ever eat soup and it was too hot? You thought it was cold because the plate was cold and you took the spoon and you put it in your mouth and then you had your mouth full of . . . blisters. It's an awful feeling. Mary, did you ever do that? Swallow the spoon of soup too quickly and you burned your mouth and your tongue, did you do that? Let's draw it." This child will not omit the mouth. Do you see? Through a basic experience we have introduced a new relationship to something which the child previously has omitted. The normal child does not need such strong motivations like "Burning my tongue or my lips when I eat a hot spoon of soup." But a child who is not flexible enough to think of including a new symbol, a new part of the body like the mouth, will need an especially powerful motivation. Yes, we will watch for these children who remain, even in the second grade, with a rather primitive form or insensitive drawing of a figure. "My child still draws only the head and doesn't include the features. What should I do?" Well, it is only an indication that your child has not become sensitive toward having eyes with which he can see, toward having a nose with which he can do something, or toward having a mouth with which he can eat or taste or speak, or having ears to listen. All these are experiences which have different meanings to different children. As long as we do not interfere with the child's own expression, the child will develop such sensitive relationships. He will go with open eyes, alert through this world.

We see all kinds of children in our homes and in schools, children who are all different. "My child only draws in a little corner of his paper; he never uses the whole sheet." "My child always draws beyond the paper; he disregards the boundaries." "My child fills the sheet of paper beautifully; he organizes all things which he produces right from the beginning." Yes, all of these things are characteristic of the children's personality. If a child draws only in one corner, there may be two reasons. Maybe he doesn't feel well in a large space, as there are persons who would not like to live in a large room. They find themselves more protected and more cozy in a small room. So the first thing I would do if a child remains only in one corner of the paper is to give him a choice. Maybe he likes a small piece of paper. There is no rule, "Thou shalt draw large." There is no commandment. The child may draw small and may be very happy and also may be

very satisfied. But if you give the child a small sheet of paper he may also go back into the corner. Now there is something wrong because apparently the child needs protection and cannot utilize the whole space like someone who has much at his disposal and cannot make use of it. He is like the child who sits in the midst of all his toys and cries, "With which one should I play?" He cannot make a choice. Such a child needs help. Above all he needs security; love is most important. Without love there is no education. Besides love there must be guidance, and to know what to do with the child is no longer the task of the parent but the task of the specialist, of the teacher, who should know then what to do. Now, apparently, the rest of the sheet of paper is meaningless to the child. As with the child who needs protection, freedom is meaningless. If we can make this freedom meaningful to the child, then the child may ultimately utilize this freedom. But this is a process of growth. In children who always retreat in one corner of their paper, one of the growth factors is lacking. It may be the feeling for emotional security which is lacking or it may be his feeling for organization: the ability to utilize the things at his disposal. In art education, both of these are furthered in our motivations and in the child's expression. Whenever the child starts to express what he has perceived with his eyes or ears or with his hands or with his movements, he also has to find out how he can best organize what he has in his mind. This is always an unconscious process, but certainly the child who sees the whole paper before him and can utilize it will distribute whatever he thinks of adequately. And this distribution, or this harmonious organization of things, is most important, because it deals with the total integration of thinking, feeling, and perceiving in life. We know that the child does not remain with one subject matter like drawing, arithmetic, writing, or reading. All things affect the child as a total human being. So if a child has lack of security in arithmetic, we'll see it in his art expression; we'll see it elsewhere, because all that the child does belongs to his personality and it affects him as a whole. Art education unites his thinking with his feeling, with his perceiving into an integrated whole. Because this integrative process can nowhere be stressed and produced as effectively as in art, we believe that art may become the catalyst in a progressive method of education.

27

On Fostering Creative Sensitivity

When the sputniks appeared for the first time in our skies, with them a new word was added to the vocabulary—not only for educators and scientists, but also for the layman—a word which previously, almost exclusively, has been used by people in the field of art and art education. I am referring here to the word "creativity." Before my discussion with you—and may I say I shall need you in the discussion very much, for I shall not rest unless you all are thinking with me—I would like to make it clear in our minds who *is* creative and who is *not* creative. This distinction has worried many of us, for many of us still believe that creativity or creativeness is the privilege of a few. This is not true. May I differentiate at the very beginning between a creativeness which is potentially in us—in all of us—in one form or another, and the creativeness which we express—the creativeness which we can use. I shall call the one the potential creativeness and the other the functional creativeness.

Potential creativeness is the creativeness which we all possess, of course to a more or a less degree, depending upon the external question as to whether heredity or environment forms our character, but we all have *some* creativeness in us. For it is this very attribute which most of all differentiates between man and the animal. Man creates intentionally while the animal does not. So we all possess some creativity potential, but in many of us this creative potential has not been unfolded. It functions only to a very minor degree. In some of us it functions fully. It is my feeling that one of the greatest missions of education is to bring out *all* of the individual's potential creativeness and make it function, so there will be no differences then between function and potential creative abilities. Now we are far from it. The reason lies mainly in the fact that we have as yet not even investigated the probabilities for the inclusion of a methodology in our teaching which may permit us to unfold the creative potentials in man. If we do it, we do it as teachers all on our own, intuitively, with a drive to bring out the best in our students. It was mainly our business—the business of art teachers—to unfold these creative potential abilities. For creativeness has most often been confused merely with art or art activity which indeed it is not, for creativeness is present whenever man invents, explores, investigates, and breaks through boundaries.

As important as creativity may be for progress—for we all know that progress without this attribute is impossible—we have not yet undertaken the necessary research to be able to include creativity in a new methodology of teaching. As a matter of fact, in our teaching we are far from it; the cry for more and better subject matter is still so overpowering that it does not permit us to make any *real* changes in *how* we teach. Only in the most progressive kindergarten and

elementary schools have teaching methods really changed from subject matter centered to child centered. Even there, they are still considering the three R's as the most important part of teaching. Important as the three R's may be, it is still more important how to use these abilities, and this "how" has not been tackled, for only to a small extent and on the basis of individual initiative are we now scratching the surface in finding out what creativity actually means. And here we, in art education or in the arts, are cutting deeply into our own emotions, our own belief that creativity is a matter of intuition, as many of us love to believe. Indeed, the last thing in creativity may be intuition. But there are many, many criteria which may be conducive to an atmosphere for the unfolding of the creative mind. And I would like to deal with but one of these criteria, and in so doing, I am asking you to participate with some self-reflection, asking yourself how much am *I* engaging in these characteristics, how much is this a part of *myself?*

Basic to any creative process or any creative experience is *sensitivity*. Without a sensitivity to problems, there is no creative thinking. We first have to be sensitized to the problem which is important to us. But sensitivity remains a generalization unless we define it more closely. In our research we differentiated between four different kinds of sensitivities. Some of them we practice unconsciously in our classrooms, others we do not, and some may even surprise us. The first kind which I would like to discuss with you is what is generally known as intellectual sensitivity. Scholarly-wise, intellectual sensitivity usually is the ability to differentiate from a bulk of knowledge that which is essential, and select it from that which is nonessential. This indeed is true for any kind of knowledge, so when we are sensitive to a problem, we first of all need to know what is essential for this problem and what is nonessential. Do we do this habitually? Do we try in our classrooms and our readings to differentiate between what is essential and what is nonessential? In the sciences we try to do it objectively; that is, what is essential should in the end be measurable—in other words, if I would present a mathematical problem to ten mathematicians, they would come out with the same objective solution although their approaches might differ. But we have a kind of intelligence, which I may call creative intelligence, which is of a different nature than the type of intelligence which I call scholarly intelligence. It is the intelligence which refers to the sensitivity of finding what is important to us subjectively; it differentiates what is important to us from what is unimportant to us subjectively. This is the type of intellectual sensitivity in which an artist engages every time he strives to develop what is essential to *him* in his form of expression. So let me simplify and say that the scientist is trying to find objective truth while the artist—and here he has something in common with religion—is trying to find subjective truth, the truth which is important to *him*.

Or, in different words, the artist tries to get into an equilibrium with his own work, to identify so *closely* with it that no barrier exists between him and his work. When Beethoven created the "Ninth," Beethoven *was* the "Ninth," and the "Ninth" was Beethoven. So it is, this unity of relationship, this utter communion which is important for creative intelligence. Don't think that this is not also a matter of the intellect, for as Goethe said, "In the limitation, the master reveals himself." It is this ability to recognize one's limitation, one's ability to face one's own self in his form of expression, which distinguishes creative intelligence from scholarly intelligence. This is but one sensitivity, but one kind of sensitivity which is not yet measured by any of our psychological instruments. While we have known that the intelligence quotient has given us much understanding about that form of intelligence which I have called scholarly intelligence—the one which can be objectively measured—we have no means in our hands to clearly differentiate the more creative from the less creative individual on the basis of his creative intelligence.

The second sensitivity I shall call *perceptual sensitivity*. Although we know from psychology that without perception there is no learning, education has not drawn the logical conclusion that it is important to refine our perception. If it were not for the arts, we would scarcely do anything for the refinement of our sensory experiences. We have made research on the basis of this distinction, and we have found that people with refined perception have not only quicker reactions but also more intensive reactions to learning stimuli. We do much too little in our materialistic world to make time for our refined sensibilities. In art we continuously engage in the refinement of our senses. We see whole worlds in little things. We have now, at The Pennsylvania State University, an exhibit by contemporary artists—you have seen them, too—and there is one artist who said he had taken his inspiration from a fossil. I think this is wonderful, that a fossil at one time may become as big as a landscape to human beings, that he can find in it the wealth and riches of textures, of colors, of shapes and forms and he does not need for his expression the wholeness of everything. We live in a very peculiar time; we live in the time of the assembly line, and we also live in the time in which we discover, or really are discovering, the small things in nature. I would like to point out to you that there never was a period in the history of man when people went to the shore and looked for driftwood to take home into their living rooms. This was nonexistent. We have now—just now—discovered the intricacy of textures in rocks, in weeds, in peels of onion skins, and in whatever there may be. This has become a new world of discovery, and I believe I can say that art is largely responsible for it.

Whenever our students engage in art, or our children are in art classes, first of all they know what is important for them; even

Johnny knows it—little Johnny—he develops a great deal of his creative intelligence on the subconscious level. "My dad—my dad is a big man; he has big legs, and I am playing around his legs. He was going across the street with me—I felt his *big* hands embracing my little hands—how *big* are his hands. My drawing has a head and two *big* legs. My drawing has also two *big* hands so my drawing is daddy." He has established the essential relationship. He has established *his* subjective truth, and he does it all the time, and we try to promote it in all that we do. When Johnny investigates something, indeed, he learns to know the sensations which occurred to him, perceptually—by touch, by vision, or by hearing. So whenever we talk of perceptual sensitivity, we understand by this term the ability to *break down* a total experience into its detailed components. Auditory sensitivity means detailed hearing, not just hearing the totality, but hearing the various differences in intensity and volume of whatever comes to our ears. Visual sensitivity means not only seeing the total object which we are facing but seeing the intricate details—all of them—indeed incorporating them in a whole. And so it goes for touching or for all sensory experiences. It means, then, for teaching in the classroom that we should try to promote an atmosphere conducive to the breaking down of our sensory experiences into the detailed components, whether it is the movement in dance where the individual experiences the movement all the way through his body from the toes to the finger tips, or whether we experience simply the total body without any differentiation. So as it is true in aesthetic experiences, this is true for the spatial experiences, for the auditory, for the tactile, and for the visual experiences.

The third kind of sensitivity is *social and emotional sensitivity*, which primarily is the sensitivity to identify closely with one's own work, and from this, and on the basis of this, extend the ability to identify with the needs of others. The ability to identify with one's own work, to become so involved that this is the most important undertaking one can do at this particular time, has become a rare ingredient in an era in which a job has almost become merely a means of making money. We are not doing our part in education to make children really identify with the work which they are doing. As a matter of fact, we are searching for extrinsic rewards instead of seeking for all the rewards in the process of learning and of understanding itself. We have just concluded a major research conducted in the city of Cincinnati on the effect of competition on creativeness. If you would like to know, the outcome is that the three categories of competition—competition with peer standards, competition for extrinsic rewards such as prizes, etc., and competition with adult standards—all have a negative effect on creativeness. Most significant in its negative effect was competition for extrinsic rewards, for it diverted the individual from the reward which he expected from the work

itself, from his immediate identification with the work to external extrinsic values such as ribbons or dollars. It would follow that as important as scholarships are, they should only be used to support the student, but not as a means to bait students into a specific field. I am referring here in particular to the result which is being expected from having science scholarships. If we can interest those students who could otherwise not afford to participate in a science curriculum, I am all for it, but if we think that we can use it to create enthusiasm in students, then we are in the wrong. Money only diverts from the intrinsic rewards of learning itself. This social and emotional sensitivity, then, we found as one ability which significantly differentiated between more creative and less creative people.

The fourth sensitivity we may call *aesthetic sensitivity*. Aesthetic sensitivity is a continuum. It starts with details; it moves from details to more and more and more harmonious organizations. Whenever we engage in harmonious organization we engage in aesthetic sensitivity. In art we continuously engage in organizing—in organizing not only subject matter, but abstract forms. We always relate things to each other so as to come out with the most harmonious organization. But in art we not only organize what is visible, we also organize those faculties in our minds which are not immediately visible to the naked eye, for we organize our thinking in relationship to our feeling and this in relationship to our perceiving and bring it into a total relationship or organization during the process of creating. The child develops a concept of what he wants to express. He compares this concept to what he has visually experienced and automatically brings this into a relationship of value: how important this is to him. Thus, we continuously engage in establishing harmonious relationships, or, as I call it, aesthetic sensitivity. In aesthetic sensitivity we continuously evaluate in trying to express with the least the utmost; so you can see that aesthetics is very closely related to economy, philosophically seen, for whenever we can we should try to express with the least means, the utmost.

So sensitivity then becomes one of the fundamentals in the teaching of art. May I say at the conclusion of this discussion that the most basic issue is that we teachers have to be sensitive, and unless we teachers are sensitive, our children will not become sensitive through us. As it is with love, it is with sensitivity. Only one who has experienced these relationships to his own work will be able to comprehend the sensitive experience in our children.

We are living in a time in which mass production, mass education, mass seeing, and mass experiencing have suppressed the sensitive feeling in our own individual relationships to our own work, to our own environment. Art education has a special mission: to develop in the individual his own creative potential and to foster in him those creative sensitivities that make life satisfying and meaningful.

On Integration in Art and Society

Meaningful integration of art in the school program is one of the most difficult topics with which we can deal, because, as you know, you cannot separate an entity from itself; that means integrate meaningfully in the school and meaninglessly in life. We are not living in an era in which life is meaningfully integrated, especially not on the conscious level in which life, our spiritual beliefs, and our cultural environment should be an entity. We are living, rather, in a time of changing conditions and confusions and, therefore, it will be very difficult for me to give you a clear picture of the real integrative meaning of art within the school program. You know, as well as I, we cannot separate school from life or life from art. This is entirely impossible. Just to give you a little explanation of what I mean when I say that we are living today in a time of confusion, not a time of integrative activities of life, of our culture and our spiritual beliefs, I would like to point out to you a few examples.

Ever since man has engaged in cultural activities, the shell that he has created which we call today architecture, has always been a glorification of the spirit which it housed. Now I hope you follow this interpretation of the meaning of architecture. If the spirit was great, the shell which glorified it expressed this spirit; for an example, the ecstatic religious spirit of reaching toward heaven. This spirit found its glorification in the shell of the Gothic Cathedral. Thus, architecture is something like a frozen spirit, if we may say so, or rather a crystallized spirit. Now let's keep this very much in mind, for we could write a history of culture on the basis of this idea.

If we would go back to the period of Greek culture it would be the same. The Greek temple, in its very nature, was a glorification of the tremendous spirit for harmonious relationship in nature which the Greeks had. If you remember, this desirable glorification was expressed to such an extent that Spartan mothers exposed their little babies on the mountains if the babies didn't have the desired proportions and shapes. Can you imagine that? It was only because their subordination to harmonious relationships in nature was so great. Indeed, the Greek columns are nothing else than symbols of the stem of the flower which is holding this glorification, this temple of the spirit. We do not have any remains of family buildings of the Greek period. There was no glorification of the spirit of family life. Therefore, family housing was unimportant, wooden, and deteriorated quickly. Today, too, we have a spirit of glorification. We only have to look at our industrial buildings which glorify the spirit of science, industrialization, and discoveries. They are probably the most profound of our architectural structures.

It is not by chance that all throughout the United States we all of a sudden see elementary schools growing like mushrooms in the most

beautiful glorified shells. Here, again, is the movement of glorifying the spirit which our elementary school teachers have so ably created. The secondary schools are just about to start, but it is different from the elementary schools. In spite of this glorified shell, we are far from being perfect, because we have monstrosities in our society, too, such as universities who build nuclear physics buildings in Gothic style. I am referring to a building at Princeton University which was finished not long ago in Gothic style. What a sacrilege! Imagine Brunelleschi getting out of his grave believing we are thinking in terms of the greatest ecstasy of religious feelings when he sees nuclear physics laboratories housed in a shell which symbolizes this spiritual belief. What a confusion! And you know that the advertisement of television sets in period style cabinets is one of our daily experiences.

We do not realize what it means to step from the everyday American living room into the kitchen. It means stepping over centuries. Indeed, the everyday American has selected for his living room, by choice, pseudo-styled colonial furniture, while in the kitchen the most modern and contemporary arrangement is not modern enough. So we are living in a time of confusion, indeed—not in a time of integration.

And so in our schools we have this confusion. We often think that when we bring two subjects together, such as art and history, we may integrate these subjects. This is far from the truth. We betray ourselves, and we fool ourselves because in this process history as well as art will suffer. It is only a superficial conglomeration or correlation which we do, which does not create the feeling of integration. Integration occurs in the individual and not outside of him. So we must provide our children with the experiences which create an atmosphere conducive to this integration.

Integration—yes, of what? May I say here that it is not the main purpose of art to integrate various subjects in the thinking of the child, for art itself is an integrative experience. As the child produces he brings his feeling, his thinking, and his perceiving into integrative relationships in such a manner that he cannot separate the one from the other. Integration occurs in the child—the child is affected by his emotional responses which he may have received through his eyes, through his sense of touch, through his ears or other perceptual experiences. Indeed, he translates this emotional response into some concepts of his own, and therefore his thinking, too, is immediately a part of this creative process. So whenever we engage a child in a creative process—a meaningful creative process—the child meaningfully integrates, and this I believe is the most important contribution which art can make to integrative experiences, because what is integrated is man, not subjects. It is the most important contribution which we can make to society to develop integrated human beings who feel, think, and sensitively perceive. Yet in our schools—especially in the

elementary schools—very often the situation arises in which we desire to confront children with motivation which brings into play various subject matters. There is nothing wrong with it if none of the subject matter suffers. History should be taught in such a way that the child feels the historical environment—becomes a part of it, and lives through it with his emotions, with his senses, and with his thinking. So history in itself can become a wonderful integrative experience, and when it has gotten hold of the child then the child can produce art . . . but not when we merely illustrate history. I would like to be very clear about this. Illustration occurs whenever the child tries to draw an event to which he has not had any personal individual relationship. For example, when we say: "Now, children, we have talked about the medieval knights—now let's make a drawing about the medieval knights," when the teacher says: "Now, children, we have talked about the settlers—how they landed on the shores of New England; now let's draw the settlers—how they landed on the shores of New England," history will suffer, and art definitely will not be art. It will at best be a poor illustration of a poor event because the event has not taken place, not taken hold of the child, nor has the art experience become meaningful to the child.

How can we bring the two together? They can only be brought together by the teacher attempting to involve the child in history first, and then giving him a feeling of how art expression can interpret this individual personal experience of history. Integration only takes place if the experience takes place within the child. To illustrate this, just briefly, I would say this to my children:

"Have you ever been on a boat? On what kind of a boat were you?" (You start with the child, not the settlers.) "Were you in a boat in rough water? How does it feel? I have brought you a picture of a boat —look at this. Now we are all on this boat. You see the boat? This was the first boat in which the settlers came over. What kind of boat is it? Mary, do you see that? What do you see there—over there? These big sails? Oh, yes, how many do you see? Now see you are standing right here. Now you feel the waves going up and down? You feel it in your stomach? Oh, yes, now look at the shore. The shore, too, goes up and down. Do you feel something in your stomach? My, what happened to Mary? Mary doesn't like that. What drives a sailboat? The wind. But do you know what happens when they have a wind? The boat tilts way over and where would you go? Yes, all the people have to go to the other side! Look at Dad—what does he wear? See, that's Dad. How is he dressed? Oh, yes, kind of a cape because it is stormy at sea and he needs to have protection. Yes. Look, he is coming over. Oh, people are getting very excited. What do you think he is going to say? What? We are going to land soon! Now he comes over and says, 'Children, hold on—hold on, now, don't—don't go to the railing there—hold on, soon you will be lowered in a little

boat and when you hit the waves you will feel it—it will splash—hold on then, and then you go to the shore. You all stay together, will you? We will make a fire there so you can keep warm.' "

The children must feel the air, they must feel the wave, they must even taste the salt on their lips. And the experience must be their experience. They must closely identify with the settlers. So you involve the child in a personal experience out of which the child may then draw his artistic inspiration or creative inspiration. The lines—the up and down—you see, may become the waves. The atmosphere, the moisture may be part of the color and the outcome could be anything —an interpretation of one particular scene—the child simply holding on, or whatever it may be. But it becomes the individual choice of the child. In this way, then, the child expresses his own individual basic experience, filled with sensitivities. In this way a meaningful integration between subject matters may take place. May I say, again, that meaningful integration occurs in the child and can only be motivated by the teacher who provides the child with an atmosphere conducive to his own self-involvement.

I would like to close with the feeling that probably there is nothing more important in this era in which we are living than to get children involved in what they do, so that they will discover that the spiritual life and the riches which we gain from such activities are as important or more important than material values.

On Creativity in Education

To talk about creativity without involving one's own self is almost impossible. We are all engaged in creativity; and I ask you to be a little bit introspective and think of yourself during this discussion, for in all things which we do we always search for our own selves. And when we find ourselves, then we may grow with this insight.

We have quite a confusion about the word "Creativity," for it is confused with three factors. First, we immediately connect it with the arts only, which isn't true, because individuals are creative outside the arts, in life itself; creativeness has been confused with giftedness; and the third confusion is that creativeness has been confused with intelligence or, rather, a high I.Q. So we have confusion all around. I shall try to clarify this confusion somewhat in talking about the role of creativity in education.

Let me start out by breaking through boundaries. Probably in years to come creativity as a part of education may be as self-evident as the accumulation of facts is today. At least we hope; and our hope is based upon the fact that we have at the present time more knowledge about creativity, or the creative process, than we have ever had in the past. But not all knowledge which we have is really designed to become a part of education. On the contrary, most of the knowledge of creativity which we have at the present time, and most of the research which has led to this knowledge, has been designed for the purpose of screening individuals into more or less creative people. As you may know, there are many research projects under way in many parts of the country. To my knowledge, no study at the present time is actually designed to help us in education. All of the studies are dealing with using our knowledge as the criteria which we may have found, for screening persons, and the reason for it is a material one.

May I say right at the beginning of my discussion that unless creativity is used for the promotion of human values, it may as well serve for the destruction of men, as history has already proven. So when I talk about creativity in education, I shall talk solely with the purpose of helping man develop his potential creative abilities.

The unfolding of man's creative potential is one of the most significant contributions which education can make. What is this thing, potential creativeness? Do we all have the same degree of potential creativeness? Well, indeed not. But this deals with the eternal question of heredity and environment; and it would be difficult to go into it, because we have no means of finding out through research whether creativeness is already in our genes, or at what time it is introduced, or in which way it develops. We don't know much about it. We don't even know much about it if we ask ourselves, who was the mother of Beethoven? Well, a laundry woman. Who was the father of Beethoven? Not a creative person. Who was the grandfather of Beethoven?

Rather obscure. So we don't know of the hereditary conditions of man, and especially not in relationship to his creativeness. But we do know that environment has a very definite influence on him, and therefore we can say that while we would not like to control the genes or hereditary conditions, we shall influence the environmental conditions. That means we would like to contribute as much as we can in our schools to the unfolding of the creative potentials of our children and of our youths and indeed of men in general. That we are far from doing it, I do not have to say.

Our schools and our educational methods are still based upon the accumulation of knowledge. We don't even have any methodology at our disposal which may develop the unfolding of the creative potential in human beings. Why? Well, it is obvious! Because we didn't find any need for it! We still don't find any need for it. For if we were to find the need for developing the creative potentials, we certainly would put more power and effort into it.

Probably in the elementary classroom we have developed some desire to unfold the creative potential. But it is still a haphazard undertaking, based upon the intuitive qualities of the individual teacher. We do not hear anything in our teacher-training institutions which will enable us to better help children in the unfolding of their own creative potential. May I say here, if it were not for the arts we would not do it at all. And I am speaking here of the arts broadly. Now we begin to experiment with creative science teaching. But we are still in the experimental stage with regard to that, and it is not at all accepted as a part of our teaching and our desires throughout the country. Yet it is quite impossible to promote the arts without the unfolding of the creative potential in children and in youth.

The criteria that make an artist a creative artist may be the same that make a scientist a creative scientist. I would not like to be misunderstood here. We all know that skills differ from creativeness and we should not confuse the two. The scientist may need entirely different skills from the artist. But to make both creative, they need the same criteria or the same attributes. To be clear, then, I'd like to develop this a little more for you so that it will be clearly understood. Now we have here several professions, let us say this is an architect, this is a sculptor, this is a painter, this is a musician, and this is a physicist, and there is an engineer. All of these professions need special skills, skills which we have not analyzed, but which we know exist because we prepare these individuals for these particular skills. The painter needs different skills from a sculptor, although they may be related. But if a sculptor is only skilled, he may be at best a mason, but not a creative sculptor. And if the engineer has just the skill of an engineer, he may be a draftsman, but not a creative engineer or an inventor. And if we have here even a physician, he needs specific skills and knowledge for being a physician, but if he doesn't have

the criteria which distinguish him as a creative physician, he would best be a practitioner, but not one who breaks through the boundaries and finds new things. And if the attributes of creativity connect up with the skills, the likelihood is that an individual will be then not only a skillful professional man, but also a creator in his own field.

Let me first discuss one attribute with which we mainly deal, or with which we think we deal, in reality we deal with only a part, and that is *creative intelligence*. We usually call creative intelligence the ability to differentiate in a bulk of knowledge that which is essential from that which is unessential for the understanding and communication of it. It can be objectified. We can measure what is essential from what is not essential. Our tests are built upon it. But this is not so! Creative intelligence, or as I may call it, intellectual sensitivity, is completely subjective. It means to find out what is essential from what is nonessential for self expression. And this is not at all an easy solution.

How many people do know what is essential to them? Very few. And how many people can express and find the medium to express what is essential for them? Still fewer. This we have neglected altogether in education. Why? Because our tests cannot measure it. Yet, is it not equally important to live, to come to grips with one's own self, to find in life what is essential for the pursuit of my truth and for the expression of what is essential to me? How much do we help youth in this eternal search for what is essential? There we leave our children and our youth entirely to themselves. If we could face this decision of what is essential for the pursuit of expression, this would be wonderful. Yet we clutter our knowledge and desires with so many other things that are nonessential for us that we have difficulty in finding out what is essential.

Instead of our education promoting this ability to identify that which is essential, we are trying to insert all kinds of escape mechanisms which prevent man from finding out that which is essential to him: including, of course, nowadays the television, the family center in most of our family life. It would be an understatement if I advised you to just listen to things which are good, for you could turn off your television most of the time. This is only one aspect. So creative intelligence, to repeat it again, is an intelligence which is not measured at all by the existing tests. This has been proven in many researches, by Getzels at the University of Chicago, by Torrance at the University of Minnesota, by Taylor at the University of Utah, and by Barron at the University of California. We have now discovered that I.Q. tests only test a small segment of human behavior, a segment which deals with our intellect. While the I.Q. never intended to be something different, you know the halo effect of a measurement, "My child has an I.Q. of 190," which means he has to be a genius, which as we know is not at all true.

You may be interested, and I report here a second-hand source, but I believe, a valid source: the dean of the graduate school of a mid-western university, who reported in a recent meeting which I attended, that at one of the last meetings of the Association for the Advancement of Science forty of the most outstanding scientists were invited. I believe thirty-four appeared at the convention; six excused themselves. A psychologist asked if he could for the sake of science measure the I.Q. of our most outstanding scientists. By "most outstanding," a committee was chosen to decide who should be invited and honored. Well, the scientists agreed and you may be interested in knowing it was reported, as I understand it, that the average of the I.Q.'s was 115. This does not mean that these people lack ingenuity, oh, no, it only means our intelligence tests do not assess creativity of individuals.

Now if education deals with the unfolding of man's potential abilities, then indeed man's creative potential or ability should be on the top of the list, not on the bottom as is presently the case. So intellectual creativity is not tapped in our schools.

Art education should deal with the refinement of *sensory experiences*. It should provide the child with experiences which urge him to go deeper and deeper into visual details. Or, in auditory experiences, it should deal with the breaking down of a total auditive perception into the details of what we hear. It seems very simple, but it isn't. You see, as the child develops, visual details will not remain just with the conceptual details, those details which we can enumerate "My Dad has". . ."A tree has . . . ," (you know, a trunk and so forth). These are conceptual details. Oh, no; as a child grows, details will refer to characterizations also. That means he will discover that one detail is different from another detail, or is in the same category. As he further grows, he discovers the details in relationship to the changing effects caused by motion; the details change when we move. Well, everything changes when it moves, like leaves change. When you run, things change by motion. Of course, distance changes details as you know; and also atmosphere causes intensity change; and the same would be true, of course, if we would investigate auditive details. The intricate relationships of intensity, and relationships of sounds which, of course, finally make music, and the intricate shades refer to harmony and counterpoint.

But to break down a total impression in its detailed components always deals with perceptual sensitivity. Whether this is true for language, for spaces, for vision or kinesthesis (you know, for movement or motions in dance) it does not differ. How little our schools engage in this very important factor of trying to break down visual perception into its detailed components is obvious whenever I ask an audience a question about an object and ask them to break the object down into its detailed components. For instance, when I ask you: "Think of a stoplight! Do you remember the shape of a stoplight?

Is it square, is it oval?" I am referring now to the stoplight in the center of the street. "The yellow is in the center? Yes! Is the green on the top or is it on the bottom?" You see many will know it because you have engaged in visual perception, but how many now have developed the question mark? In such a very simple question! It only shows how we go through the world. We are not responsible for that because our education is not at all based on the refinement of sensibilities. This is completely neglected. And then we wonder why we have not developed a more refined education with regard to cultural aspects.

An important part of any creative act is *self-identification*, the ability to identify with one's own work, whether this work is the simple making of a table, or whether this work deals, I don't know, with what you write, or when you paint—you become so completely involved that you identify with what you do. Well, usually we can, to some degree, identify with literary content. We foster this in our schools because we depend very greatly on the intellect with which we listen in assessing the content of a story. So this is the only way we cultivate this important sensitivity. We learn facts, you see, therefore we have to deal with content. Do I make myself clear? For instance, in history, you have to learn the facts which surround a historical event. So what we learn is then the content. But do we identify with the situation? Do we put ourselves into the situation and look at it as we surround ourselves with it? We usually neglect it, for if we would do it we could have better human relations. If we would try to teach the social sciences not by means of facts but by means of identifying ourselves with the situation, putting ourselves into the situation in which the facts occur and then look from the inside, as it were, back to the present time and look around within this new atmosphere which we have now created, we would understand much better. This is not only true with historical events, it is true with culture, it is true with human relations, it is true everywhere.

We should make it a daily experience in our schools to empathize with human needs, or in creative acts to empathize with the medium with which we deal. If this would become habitual in us, well, I think we would have no troubles at all, for we would immediately understand differences in human behavior. In creative processes, we have to become so much acquainted with the medium with which we deal that there is no difference between the medium and the creator. That means the medium in the creator's hands simply becomes an extension of him. The work becomes an extension of his own self; wood for the sculptor becomes an extension of himself; the chemical formula becomes an extension of the chemist. But as long as the medium has not become a part of the creator, we can not really talk of self-identification.

Now in our schools, even in the elementary classrooms, the child has to identify with the medium with which he deals. He learns from

the crayon with which he draws so well that he can predict the reaction of the crayon to the paper. He knows how much pressure he can put on it. He knows this so well that the crayon is like his friend. He can already predict how the crayon will react in this and in this moment. The same is true of course for any other medium. There you may have Johnny and you may have Mary; they both are painting with water color. Johnny is painting and all of a sudden the paint starts running. He becomes disturbed. He does not look forward to what will happen. Mary waits with great excitement to see how the colors will merge, identifies with the running. Now she feels with the water color and thus the water color takes possession of her own self, and indeed she takes advantage of this mutual friendship or communion which has developed during the act of creating. Those who have worked with creative media know what I mean. But it is one of the most difficult things to explain if one does not know what happens to wood if you follow the grain while you are sculpturing, or if one does not know what reaction granite may have with just a little knock of the chisel. You control your medium, as it were, but in reality you really live in communion with the medium. You identify so closely with it that you yourself also become the medium. It is this state of highest equilibrium in which social and emotional sensitivity depends. Now, you understand, without this identification with one's own work you will rarely be able to extend from it into the work or into the thoughts of others. This is, of course, one of the presumptions of any active cooperation or human relationships. Therefore, you have here a very closely knit relationship between various factors, the one dealing with creative activities while the others deal with human relations.

One important attribute in creativity is the ability to take continuous advantage of changing situations. Well, do we do that? Do we try to take advantage of continuously changing situations? Or are we blocked by changing situations? You know how much our teaching counteracts this very kind of sensitivity. Those who are in education know what I mean when I use the words "lesson plans." Well, lesson plans actually are designed to stick to a certain concept. Only when we design lesson plans with the purpose of change will they serve the unfolding of the creative potential. Not that I mean we shouldn't have structure when we go into a classroom, but we should at all times be ready to adjust continuously to changing situations and take advantage of them. Everyone who engages in creative activities knows what I mean by it. If you have ever engaged in a painting, well then, you know that you cannot paint unless you take continuous advantage of the changing situation during the process of painting or during the process of composing. We know from Beethoven's numerous sketches for symphonies how he worked from one step to another and took advantage of the level which he had reached.

Nowadays, in our contemporary art forms, we know that this attri-

bute especially has become one of the most important, powerful attributes in our creative process. For instance, we know that action painting, the type of painting which, well, is so much misunderstood, stands and falls with the ability to take continuous advantage of the changing situation during the process in which the creative act occurs. As soon as you put down one brushstroke, you react to it, and the second brushstroke determines the third, and the third the fourth; these are continuous reactions and all of them relate to the whole: the whole, the area, and, of course, your emotions, your sensations, and projections. So we see that here a new art form has been created which uses these criteria as its main attribute.

Another important attribute in the creative process is the ability to redefine an object or thought for new purposes. This means that creative activity not only deals with innovation in the truest sense, but deals also with redefining old thoughts for new purposes. Indeed, may I say this is the distinction between a meaningful and a meaningless tradition? In a meaningful tradition, old thoughts are redefined for new purposes, while in a meaningless tradition they are simply taken over. In our schools we redefine constantly in good teaching. Indeed, in good teaching, especially in the art room, we may give the child a piece of steel wool, and the child redefines this piece of steel wool—which is usually only used for scrubbing or polishing—as a new texture, as a fur, or something which he now all of a sudden sees in it. A toothpick or a tongue depressor or a wire screen will all of a sudden have different meanings in a different relationship. While we do it in art education at all times, language education would gain by the ability to redefine words, for instance, in a new environment, for new thoughts. To constantly encourage in our students or children this ability to redefine is one of the major purposes of the unfolding process of creative activity.

Finally, may I point out that without *originality* or uniqueness of responses to given stimuli, there is no innovation. We now know, through research, that through art experience our thinking and our actions become more independent. A survey made among artists revealed that artists, according to standardized conformity scales, were indeed less conforming than the rest of the population. This would not surprise us, for artists are independent in their thinking and they reveal themselves in their own individual way. But what is surprising and important to education, and in particular art education, are the findings that through continuous, meaningful art experiences, the human mind becomes more independent in its reactions. This indeed is important, for we know that with the growing industrialization, which indeed may be a blessing to mankind, we also face the danger of succumbing to it, succumbing to the uniformity which it creates.

On Research and the Creative Process

Creativity is a very basic function of humanity. It is one of the main responsibilities of education to unfold the creative potentials in human beings. I feel sometimes ashamed that we promote nowadays a very important function of a human being only because we have been challenged by the Russians. And I do hope, and I say this with all the power that I can muster, that creativity will not become an educational cliché as the "whole man" has been, and disappear from the educational vocabulary as the "whole man" has disappeared. I hope you know of what I am talking, because there was scarcely a town or a community not affected, if there were teachers, there was the "whole man," and the "whole man" has disappeared, and this is sad because we need him. We need him even for the promotion of creativity, for creativity is not possible without the whole man.

We at The Pennsylvania State University started some research several years ago, which at the starting point did not appear to me to be as significant as it has turned out to be. Its full significance even now is not fully comprehended, for these findings may in due time revolutionize not only art education but educational methodology in general. Although our studies are not yet completed, the results are conclusive enough so that they can be reported.

We have been trying to find criteria which may distinguish between creative and less or noncreative people in the arts. This indeed presumes that we first have to find measurable criteria which are responsible for creativeness. I would like to emphasize that this was not done to test people or to categorize them, but mainly for the purpose of finding means which could more effectively promote creativeness. Because I believe that creative teaching is essential for the teaching of every subject, I venture to say that these criteria may well become the basis for a new methodology in teaching, if we are able to accept it. They may even open up new ways of how to encourage and motivate creativeness. While conducting our experiment in the arts, we heard of an entirely independent and very distinguished study, that of Dr. J. P. Guilford and his staff at the University of Southern California. They were trying also to find measurable criteria which are responsible for creativeness, not in art but in the sciences. While the subjects in our study, which is based on several doctoral studies, especially that of Dr. W. Lambert Brittain now at Cornell, range from a group of highly sophisticated artists to the non art group, the study by Guilford is based on individuals working in the exact and applied sciences.

The significant factor of the two entirely independent studies with entirely different experimental groups, testing the same phenomena but for different purposes, is that both investigations, after exploring numerous possible hypotheses, arrived at almost exactly the same

eight criteria of creativity which significantly differentiate between creative and less, or noncreative people. Yet at this time we were not quite sure whether the tests measuring these criteria, even if they sounded alike and had the same name, also tested the same attribute. It is for this reason that we conducted a study under the direction of Dr. Kenneth Beittel to correlate the two series of tests, both the items singly and the tests as a whole. While we have not yet finished our research, which includes both the correlation study and factor analytical study, as far as our evidence goes, there is a highly significant correlation between the attributes tested in both investigations. As far as our data are concerned then, this would establish for the first time that creativeness in the arts and creativeness in the sciences have common attributes. Educationally, this seems to me tremendously significant, for it confirms our basic philosophy that through art education we may be able to promote creativeness in general, regardless of whether it is applied to the arts, to the sciences, or elsewhere. However, it should also be remembered at this time that creativeness can be thwarted through an art education which is inflexible, insensitive, or unaware of its task of developing the creative potentialities in men. This, indeed, increases our responsibility as art teachers.

Because I feel that the application of these eight criteria is important for any art motivation, I would like to go into greater detail in enumerating and discussing the meaning of the eight attributes of creativity for art education.

The first criterion we called *sensitivity to problems*. It is this vital issue in education, how to motivate greater sensitivity to problems, which in both investigations was not only found as significantly differentiating between creative and noncreative people, but which was also named alike. This brings to mind that no creative work is possible without being based on a sensitive experience; thus, the promotion of sensitivity to problems or experiences is a vital part of art education. Without being sensitive to our own needs and the needs of our environment, which includes our neighbor, art education will not fulfill its vital mission. To completely identify with one's own needs, to seek fulfillment within one's self, however, finds its greatest expression in what our religious philosophers call being "in equilibrium with the absolute." This greatest of experiences is impossible without the sensitivity to problems.

However, sensitivity to problems remains a generality unless we define it more closely. Guilford describes it as seeing defects, needs, deficiencies, or as seeing the odd or the unusual. Thus he refers to the refinement of both our senses and our social responsibility. Indeed, when we speak of promoting or motivating sensitivity in art education we too refer to the refinement of our senses so that we learn to use our eyes not only for seeing, but for observing; our ears not only for hearing, but for listening; and our hands not only for touching, but

for feeling. While we know from psychology that without perceiving no learning is possible, we are far from drawing the logical conclusion that we must refine our senses. If it were not for art education, our educational system, geared to material values, would gravely neglect the refinement of our senses. We promote this important attribute of creative activity by continuously motivating our children not only in their responses to environment but also in their sensitivity to different materials and media. To react sensitively to media means to identify with them, to learn the behavior of materials and media to such an extent that we can also predict what two colors will do when they merge—how wood will appear when it is all polished showing its best grain. Thus sensitivity to problems is of vital concern to every art teacher and basic to any art experience. Also, it is most important in the understanding of the needs of our children and our youth. If we are not sensitive to their problems, we shall never be able to penetrate into the meaning of their creative expression; we shall never be able to understand, to "read" their creative expressions. Yet, to a great extent, every art expression is an individual interpretation of experiences, sometimes so individual that even with all our sensitivity we may not penetrate the most inner meaning. This is indeed true for a child's creative work.

The second attribute which significantly differentiated creative from non or less creative people and which in both investigations was called by the same name, was *fluency*. Fluency refers to the continuously shifting responses to a given idea, object, or material. For instance, the thoughts which occur to us when we are confronted with a certain situation such as seeing waves hitting a rock. How many thoughts or how few thoughts occur to you? Do you think mainly of the spectacle of looking at the waves and the foam which splashes from the rocks or does your mind go around fluently and develop many trains of thought which refer to energy, age, beauty, and so forth? Guilford distinguished between ideational fluency and associational fluency, while we did not differentiate between the two. In testing for ideational fluency, Guilford used, among other tests, one in which he tried to find out the number of different ideas which a subject may have when thinking of the uses of a brick. An example of associational fluency on the verbal level is the rapid production of words meeting specific requirements, such as expressing enthusiasm in different ways. In our study we were careful to have a proper balance of sensory and verbal performances. The practicing of fluency in art education is indeed common in every classroom in which materials are used for various purposes. The more fluent the child or youth becomes in the use of his materials such as even the crayon—by using it pointed, with different pressures, or on its broad side if expression calls for it—the more creative he will be. This, indeed, refers to the use of *all* materials. Promoting greater fluency of media

and of ideas in the choice of experiences as well as in the use of materials, is a vital part of education.

The third criterion we call *flexibility*. While our study refers to flexibility as such, Guilford distinguished between adaptive flexibility, the flexibility we use in adapting to a certain situation, and spontaneous flexibility, the flexibility we use continuously as a part of our behavior. Both kinds of flexibility are part and parcel of any creative process. Not only must the creator continuously adapt his expression to the medium which he uses, but he also must flexibly take continuous advantage by shifting his ideas and responses from the results he obtains during the creative process. No creative process is fully utilized if it does not take advantage of the many changes and challenges which occur during the execution of a product. Children or youth who are inflexible and cannot adapt to new situations, express themselves in stereotype patterns or mannerisms. They do not adapt flexibly to the ever-changing situations of the creative process but stiffly use the same kind of presentation. On the child level such stereotyped patterns indicate that the child is unable to use his mind flexibly. On the level of adult artistic production, this is a serious problem because it is here that we have one of the tragic contradictions of our time. I am referring here to the search for individual originality on the one hand, and for conformity on the other. Artists today who continuously search for their individual originality are often inventing art, as it were. Unlike any previous era, these inventions have come to their own style and are repeated as mannerisms. In his search for individuality in expression the contemporary artist may become the slave of his own originality, thus falling victim to his own conformity. We can readily see by this example that no flexibility or fluency is promoted by predetermined patterns on any level—workbooks, or coloring books, or numbered paint sets, or whatever. Instead of promoting flexibility we often thwart flexibility and thus thwart the creativeness of our children by giving them such stereotyped repetitions to imitate or fill in. No motivation promotes creativeness which does not encourage the flexible use of materials and which does not take advantage of the constantly shifting mind of the individual.

The fourth criterion we called *originality*. Originality, as you know, is a vital part of the distinction of creative from noncreative people. This attribute was tested by finding uncommonness in responses, which were both verbal and visual in nature. Indeed, no classroom teacher would be satisfied if her pupils were to react always in the same manner, nor would any art teacher feel happy if her pupils were to express themselves alike or in similar manner all the time. It is the very core of a democratic society that we respect the individual in his differences of reactions. In spite of the very significant contribution which art education makes in stressing original responses of the individual, conformity and regimentation loom dangerously in both

our classrooms and our society. If Johnny cannot respond as the rest do, he may be considered a social outcast, one who cannot mix. That one of these outcasts may be the Beethoven of our time is a fact many of us still have to learn. Conformity in certain instances may be a social necessity, yet to foster it in education means the suppression of the uncommonness of responses.

The fifth attribute we called *redefinition* or the ability to rearrange. Guilford refers to this attribute as the ability to shift the function of objects and use them in a new way. He also speaks of Gestalt transformation. In our art rooms, whenever we transform a pipe cleaner into the design of a figure, or whenever we transform the pigment or color into a shape, we engage in redefining materials by using them in a new way or by giving them a new meaning. A button, which we have been using as a button, may suddenly take on a new meaning within a creative product. This ability to constantly use our minds in rearranging and redefining materials for new purposes is an important attribute of any creative process. In fact, it is the nature of experimentation with materials to use them in a new way, to "rearrange them" in new combinations and thus arrive at new discoveries. As long as we remain with preconceived ideas we deprive ourselves of important adventures in the flexible application to new tasks. This rigidity which often finds its expression in academic approaches to art does not meet the situation flexibly by redefining its meaning, but adheres rigidly to a preconceived idea, regardless of meaning. This is the difference between a meaningful and meaningless tradition. In a meaningful tradition we constantly and creatively redefine its meaning for use for us by shifting its function and using it in a new way. When we lose this ability, tradition becomes insincere—false and dead.

The other remaining criteria were named differently in the two investigations. Yet, after close study, they seem to be testing similar attributes. I shall attempt to point out the significance they have for art education.

Whenever we recall a mental picture, it remains nebulous unless we try to analyze it, that is, abstract the details. *Analysis* or the ability to abstract was the sixth criterion. In thinking of a tree, we first think of a whole shape of a tree, then probably of a trunk, the branches, the twigs, the foliage, the kind of foliage, and incorporate all these details into the whole shape of a tree. In every analysis we start with the whole and arrive at details. Without arriving at details, that is without abstracting from the generality and arriving at specific relationships, no form of creation would be possible. It is this analysis which we promote in our art classes when we motivate our children to become more sensitive to detail, when we motivate their passive knowledge through meaningful experiences. We should be conscious of the fact that it is analysis which allows us to penetrate into the nature of an experience and which also prevents us from mere generalization.

Indeed, every generalization in our human relationship carries the germ of discrimination, for if we remain with generalizations we are apt to engage in discriminatory attitudes. No one less than Gordon Allport said that generalizations are the core of discriminations. If we say "the Negroes" or "Jews" or "Whites," then we are apt to generalize. God protect us from such things. In a democratic society, I believe we should always be open to the meaningfulness of the individual and the preciousness which the individual contribution has for us. I believe that this is probably the greatest difference between any totalitarian and democratic society, for we regard the individual and all his implications as the backbone of our society, while in a totalitarian regime the individual is subordinated to the needs of the state and the dictation of the state. But this analysis is also true for our visual environment. The more we see differences, the more we become sensitive to them. It is therefore an important task of every creative teacher to help children in their discoveries of differences, for only through penetrating the details which account for these differences in men and in environment will their experiences become rich and sensitive.

The seventh criterion we call *synthesis*. We understand synthesis to mean the combining of several elements to form a new whole. Whether we combine chemicals to make a new material called synthetic rubber, or whether we combine several materials to make a collage or a painting, the process is essentially the same, namely, that of creating something new out of various single elements. Guilford tested this attribute by presenting individuals with words in scrambled order and asking them to combine them to make a meaningful sentence. For our investigation a similar principle was used on a non verbal level, namely, to combine several objects or parts of objects and to "close" them into a new meaning. Indeed, whenever our children engage in construction work, in cutting out paper, in modelling, in making collages, or in any creative activity, they combine several elements—buttons, toothpicks, or whatever they have—to make a new form, a synthesis. In fact, every creative work undergoes this change, whether we start with single brush strokes which finally unite to make a new shape, or whether we deal directly with various materials as used in the crafts. Yet, it is the creative mind which closes these parts into a new whole—the creation. Depending upon the medium used, we speak of architecture if the parts are spaces, of painting if the parts are of brush strokes, of poetry if the parts are words, of dance if the parts are motions.

The last criterion we called *coherence of organization*. It is this criterion which gives the work its aesthetic impact. As long as our thinking, feeling, and perceiving do not result in harmonious coherent organization, we cannot speak of an aesthetic experience. In art this is mainly achieved through intuition, that is, the power to apply aes-

thetic sensitivity without using inferences or reasoning, but merely out of one's own inner drive for fulfillment. This, indeed, is a continuous endeavor in any creative process, for it is through this unity and coherence that the creative work receives its aesthetic impact. But let us not forget that aesthetic growth is on a continuum and expresses itself whenever we establish a more harmonious organization and that begins whenever we move from a chaos—a chaos in words, in lines, in colors, or in spaces. Since every harmonious organization involves the whole individual, the integration of his thinking, feeling, and perceiving, the impact which aesthetic sensitivity has for education can readily be seen.

From this discussion it becomes quite evident that our work in art education achieves even wider significance through this research, for we know now that whenever we promote and unfold creativity it has its effect on the whole individual, regardless of where his creativeness is applied, whether in the arts, the sciences, or elsewhere. But we may also thwart creativity. If we thwart creativity in the arts we may thwart it elsewhere, in the sciences, in language, even in living. Whether you live a frustrated life or whether you live a life in which you can look forward to the next day with hope and joy, or whether you encourage this kind of living in those you teach, may depend upon the successful unfolding of the creative potential.

On the Adolescence of Art Education

Adolescence, as you know, is a stage in human development which is signified by a change—the change from childhood to adulthood. This process of maturation is often marked by great difficulty of a physical, emotional, and social nature, depending on the upbringing, the social environment, and the inherent qualities of an individual. Since adolescence most often consists of a change which occurs under difficulty, we can readily speak of a crisis. Some would disagree with this term, inasmuch as a stage which is a natural part of growth cannot actually be called a crisis. Yet we all know the difference between the freely laughing child whose imagination can change a stick to an airplane by engaging in almost any action including the imitation of noises, and the youngster who comes back from vacation with a changed voice, restricted and wooden in his behavior, stepping from one foot to the other, and answers with the usual, "Yes, ma'am" when we tell him, "My, John, have you changed!" The adjustment to the many changes is often difficult, and who would know better than his teachers of the difference between the freely and innocently playing Johnny before and the adolescent John who has been visibly affected by the changes of maturation?

Any degree of greater awareness poses new responsibilities upon us, for only when we live in the wonderful realm of unconscious childhood do we really live and dream and look and laugh and cry with the innocence that makes all these means and purpose alike. "Oh, could I retrace the path which leads back into children's land!" sings Brahms in his late days, and besides him it has been the longing of many great men—poets, musicians, and artists of every rank. Yet, indeed, with the change from childhood to adulthood, not only does our intuitive world change, but also our social responsibilities, and out of this changing world grow many problems. The conditioning to these problems is the task of education, while the resulting adjustment to them rests with the individual.

There seems to be a striking parallel between the problems resulting from such a higher degree of awareness in adolescence and the problems with which we are confronted in art education today. Apparently, art education with its relatively short history has lost its childish innocence, its purely intuitive character, and has only now become aware of its implications and meanings for the individual, for education, and for society in general. As in adolescence, such awareness is not only connected with a greater responsibility, but it has also created problems of adjustment similar to those in adolescence which cannot be solved by escaping them—by stepping from one foot to another with a "Yes, ma'am"—but only by facing them squarely. In this connection, I beg your indulgence for any frankness in my statements which will be, by necessity, subjective if they are not based on re-

search—and may I also say they are always said with an undertone of love.

Before enumerating some of the major problems which result from this greater awareness toward the tasks of art education of which adolescent art is a part, let me state with all the power I can muster that there is nothing which can ever replace sensitivity to ourselves and our environment. Without it, no art teaching, or as a matter of fact, no art expression is possible on any level. Now, let me try to analyze our present problems which are like some of the pains which are related to the problems of growing up. The awareness that art is a part of the total growth of the child has created major problems to which I would like to call your attention. One is that art education is now a part of almost every elementary program in the nation. This is wonderful, indeed. We have definitely moved from the "hectographed tulip" stage to what is generally called "integrative art activity."

We should all keep in mind that all that is said now will be said, as I said before, with an undertone of love for the elementary classroom teacher whom I admire for her enthusiasm in using art experiences so readily in her classroom. On my many trips across the nation the elementary school teachers have been among my most inspiring audiences, yet we must not overlook the fact that most of our elementary school teachers are concerned mainly with art as an interpretive agent —an agent which helps the child to understand better what the teacher teaches. This without any doubt is a noble attempt and surely it is far better than the regimentation into tulips, windmills, or hectographed Easter bunnies. Yet real integration seems to be badly confused with interpretation, or correlation, for integration takes place within the child when his thinking, feeling, and perceiving unite into an inseparable whole—the experience which is expressed in his creative endeavors. Apparently, aesthetic sensitivity in many instances still lies outside the orbit of the general elementary classroom teacher, and it appears that we have to be on guard so that mere interpretation of subject matter, merely because it is done with crayon or paint, is not confused with the art experience the child *should* get. Let us not forget that in art experiences the child brings into play not only his intellect but his emotions, and especially his refined sensory experiences; for that, we need teachers who have become sensitive to themselves and to environment and can bring this sensitivity into a harmonious relationship with experience. This is true for elementary and art teachers alike, for aesthetic sensitivity is no one's birthright, yet it is our responsibility to be on guard for any misinterpretation of that in which we so firmly believe. It is only through intense identification with an experience that the child may arrive at integration, and only through such sensitizing may the child express himself creatively; that the teacher plays a highly important role in his unfolding process

is quite evident.

That art is a major promoter of the total growth of the child has led to research which has resulted in an understanding of criteria which are indicative of the child's growth. It should be stressed very emphatically that the use of such growth criteria by teachers for purposes other than that of becoming more sensitive to the child's needs would not only be harmful to the child, but lies completely outside the realm of our profession. I am referring here to the dilettantish approach of teachers who "diagnose" or "interpret" children through their creative work. This represents a complete misunderstanding of the meaning of growth criteria. If a teacher has become more alert to the changing criteria which are responsible for the growth of children on the various levels of their development, the teacher has become more sensitive to the child's needs, for any departure from mere generalization to a more refined recognition of the meaning of details results in a more sensitive relationship. It should be stressed here that in art the only valid interpretation is that which is visible to the naked eye. If a child draws an elongated nose, for us a nose is a nose is a nose. Inferences which lead to other symbol interpretations are outside the realm of art teaching and must be left to those who are better equipped for such interpretations than we are. Yet to separate art education from psychological findings, would be as artificial as to separate the body of a person from his mind. Art on all levels is an expression of human spirit and emotions and can only be understood if the underlying forces are understood. Any isolationist tendency of separating the aesthetic experience or product from its creator is clearly against a time in which border lines are disappearing fast, even in the exact sciences. To erect such artificial barriers for fear of doing injustice to aesthetic experience, to me is not only a misunderstanding of the meaning of aesthetic sensitivity but of art education in general.

There is another important item growing out of our increased awareness of art as a part of the total growth of an individual, and that is the use of art as therapy. Let me say to you frankly and firmly that in art education we cannot separate the individual from his creative product and vice versa. As long as we can help individuals in their growth through art, even by sacrificing at times aesthetic values, we shall help them, for individuals should always be more important to us, even more important than aesthetic experience. Although we shall promote aesthetic sensitivity whenever we can, we always shall have the individual's needs foremost in our minds. It is the very essence of aesthetic growth to grow from a chaos to a better and harmonious organization. However, this is also an important outcome of therapy; therefore, I am deeply convinced that through the promotion of aesthetic growth in art education some form of therapy takes place. Thus it would be entirely against any basic philosophy in art education

to create an artificial barrier between art education and therapy out of fear that we may do injustice to the aesthetic experience. Remember, fear is a very poor excuse for changes in spiritual matters, and I am speaking from bitter experience, as you all know. Indeed, art and therapy is no dichotomy—on the contrary, without knowing it, we engage every day in some form of therapy in our classroom. Whenever we help a child or a student in the unfolding process of freeing his creativeness, we help him to face himself and to organize harmoniously his thinking, feeling, and perceiving in his art expression. Instead of being afraid to tackle this important probiem of the meaning of therapy in art educaion, we should take it into our hands and clearly circumscribe the role which art education plays in therapy and vice versa. I would like to state firmly here that attempts to minimize the role of art education in therapy or even exclude it from therapy would not only be artificial but harmful to art education. It would certainly deprive it of important contributions and understandings of creative processes. As long as we remain within the means of art education, that is, using visual conception only and by refraining from the interpretation of inferences, we may even evolve a specific form of therapy —an art education therapy. It is good to point at our weaknesses, but without giving positive direction, we engage in defeatism.

With increased awareness of the distinct contribution of art materials in their variety of textures, consistencies, and surface qualities, a new sensitivity has come into being; and with it the so-called collages, or compositions in materials, have become a major part of our art education activities. At the same time, however, a new academicism seems to develop which under the cover of "new trends in art education" has made a stereotype, a kind of impersonal gadgetry out of this. I would like to state emphatically here that those art forms which permit the child actively to form his own concepts must still form the nucleus of a well-rounded art education program. We shall become victims of our impersonal time and succumb to the paper doilies, toothpicks, tinfoil, not to mention the many colors of cellophane, if we exaggerate the promotion of those art forms which do not allow the child to form actively his own world and face it intensely. Don't misunderstand me, I recognize the great value which these materials have if properly used for enriching sensitivity to materials and tactile sensations and enchanting the fantasies of our children; yet when they become the major part of their art education program, their very virtue becomes their downfall—a stereotype in which children continually faced with multiple choice arrangement, lose their ability to form their own personal individual concepts. Who has not had the experience of seeing hundreds of collages, looking almost alike, with little provision for individual differences? While we have progressed in the elementary classroom from the "hectographed tulip stage" to a stage of, let us say, illustration in which the elementary

school teacher tries hard to get the child subject-matter involved, we must be on guard not to fall victim to our age of gadgetry by using sensitive methods insensitively, for in both instances the aesthetic experience suffers.

And now let me come to the major challenge to art education of our present time—research. Here, also, some of us actually seem to be afraid of research, fearful that it could take something away from the precious intuitiveness and spontaneity of art expression. This, indeed, is not only a great misunderstanding of the functions of research, but it is against any progress. To speak the words of Einstein, "The more we know, the more we know what we don't know." Since art education is very much concerned with art processes, the forces underlying creative activities, we should be very anxious to replace opinions with facts wherever we can find new knowledge in processes which will help us in the understanding of the effect of creative processes and the promotion of art education in our classrooms. Research has definitely proven the devastating effects of coloring and workbooks on children. According to research findings, I consider coloring books the number one enemy of creativeness in the United States. Sixty-five percent of all children exposed for a certain time to coloring books, according to experiments, become dependent and inflexible in their creative work.

We have made new progress in the understanding and promotion of art for adolescents. Research has helped us to determine criteria which relate to the adolescent personality. It has given us a deep understanding of how the adolescent looks at his own creative work. It has established the fact that while there is a significant correlation between intelligence as measured by our common tests and art during childhood, there is no such correlation between art and intelligence during adolescence. Since child art is mainly conceptual, that is, replacing what is being perceived by a concept or representative symbol, and adolescent art is derived mainly from percepts, that is, sensory experiences, new light is thrown on the difference between concept and percept. It may also be indicative of the fact that our common intelligence tests are entirely insufficient, because the degree of the refinement of sensory experiences should indeed be considered a part of intelligence—probably a different kind of intelligence than we use for our materialistic era, as a richness of life is still considered a luxury which even our high standard of living cannot provide.

Let me but briefly mention what I feel is the most significant research finding, which may in time revolutionize not only art education but educational methodology in general. Although these studies have not been concluded, the research indicates that creativeness in the arts, as well as in the sciences, has common attributes. Educationally, this seems to me of tremendous significance, for it confirms our basic philosophy that through art education we may be able to promote

creativeness in general, regardless of whether it is applied to the arts, to the sciences, or elsewhere. This indeed adds a very great responsibility to the task of art teaching.

Yet, let us not forget at this moment that the greatest contribution of art education remains still the same: the emphasis on the individual and his own potential creative abilities and above all the power of art to integrate all the components of growth which are responsible for the development of men. Let us gain new power and insight to become more sensitive to problems, the problems of our own needs. Let us face these responsibilities for, as in adolescence, only when we face them can we deal with them.

Let me close by applying to our situation a free quotation by a wise woman of the past, Montessori. "Thus, unless we know how an adolescent should develop in order to unfold his natural energies, we shall not know how art as his natural expression develops. The universal development of his art will come not from a school of design, but from the school of a new man which we call art, to spring forth continuously like water from an inexhaustible spring. To compare free expression of art we must create by eyes that see, a hand that obeys, a soul that feels, and the mind that thinks, and in this task the whole life must cooperate. In this sense, life itself is the only preparation for art. Once we have lived, the inner spark of vision does the rest."

On Stereotypes and the Insecure Child

Children who are silent and have no desire to express themselves are not healthy children, for they accumulate within themselves all their bitterness, aggressiveness, and joy and never have the opportunity to embrace others in their joy, in their sadness, or in their excitedness.

The ability to adjust to new situations is an individual characteristic which accounts for emotional freedom or emotional rigidity. Individuals who are emotionally maladjusted cannot freely adjust to new situations. They adhere to rigid patterns; for instance, a tantrum is such a rigid pattern, a stereotype. A stereotype is one form of reaction which indicates that one cannot meet a situation. There are certain stereotypes which we accept socially; some are pleasant, for instance, a smile. A smile may be a sincere smile, but a smile may also be a stereotype; let us say that whenever you don't know what to answer, you smile, and that is a nice way out. This is something that is commonly accepted, although I read with great horror in one of the citizenship books which was being used as a text in a local high school, that you should always look at the world with a sincere smile. "Practice your smile every morning in your mirror." It is really sad. What a confusion, between sincerity and practicing a smile by looking into the mirror! I have nothing against any smile; may I say it is really better to smile than to look dull. It is important not to deal with every situation with the same means. There are other stereotypes that are not as pleasant and which we see in children.

Now this is exactly what we have when we see Mary go into a tantrum when we tell her "Mary, it is time to go to bed." Mary is playing with her dolls; she cannot change quickly to a new situation and needs an escape and so uses a meaningless escape, or as we call it, a stereotype—you know, a stereotype does not meet the situation, but actually is an escape from a situation. The tantrum does not meet the situation of going to bed or playing with a doll so it is an escape mechanism; the child goes into a tantrum. But we know from our teaching that we can condition the child to learn to go to bed by a little bit of love. If we just identify with the child (how difficult it is to change from playing with the doll to going to bed) and stop for a moment, then we will all of a sudden be able to help the child.

We could, maybe, half an hour before Mary goes to sleep, ask her, "What are you doing, Mary? Playing with your dolls? Are your dolls sleepy? Well, soon your doll will have to go to sleep and you, too." Well, after a quarter of an hour you may come again, depending on the adjustability of the child, and when the final moment comes and Mary has to go to sleep, she will be prepared to accept the new situation when she previously could not.

In art education, as you all know, such conditioning to a new situa-

tion or the establishment of greater flexibility constitutes one of the very important parts of our motivation. For instance, in children's drawings, a child who cannot adjust to new situations draws the same thing over again and again. When a child draws continuously the same thing, he only indicates that he cannot adjust in his mind to a new environment, therefore he escapes into the same mechanism, in drawing the same thing over and over again, because such a mechanism is an escape mechanism. And it means the child cannot face a new situation. One of the educational principles, as you know, is to start on the level of the individual. So if one of your children always draws the same things again and again, let us say airplanes or guns only, don't tell the child, "Don't draw those silly airplanes," or "Don't draw those silly guns." This will not help the child. Obviously, to say "Don't draw those silly guns" would not make the child more confident in his expression or in his flexibility, nor would it relate him to a more meaningful environment. On the contrary, it may for the moment deprive him of his security, which he obviously, quite obviously, has found in the repetitive statements of making guns.

If Johnny draws airplanes only, it is important to make the airplane meaningful, to make it alive so it will stop being a repetitive escape mechanism or stereotype. The airplane can do all kinds of things. The first removal from a stereotype may be that Johnny recognizes that there are large and small airplanes. And soon he will start to organize them somehow. The second will be that he realizes what he can do with small and with large airplanes. But he may also want to land in a plane and then you extend the frame of reference with questions, "Where does your plane fly, high above the ground or low? Does it go through clouds?" And all of a sudden Johnny is no longer concerned with the stereotype repetitive statement but adjusts to a new environment and to new situations. That is, to make the plane and its environment meaningful to the child presumes that also the teacher has to identify with the child's needs, particularly in relation to his feelings, in this case toward the airplane. In this way we have extended the frame of reference from the child's stereotyped meaningless airplane symbol to an expression of a meaningful variety of airplanes, from a meaningless background area to a meaningful space which has become part of the child's experience.

It is needless to say that diverting the child from his problems by making him do different things from those he intended will not help him. However, it has been proven that diversion by using different materials may give him a new approach and thus may help him in eliminating established stereotypes.

If the child's mind is blocked, the frame of reference of the child needs to be extended. This extension of the frame of reference, or if you would like to say, the establishment of a greater fluency, constitutes one of the most important principles in art education, or indeed

in education in general. To extend the frame of reference of a child implies that we always have to start on the level of the individual and have to extend the child's thinking, feeling, and perceiving on his level and at the stage of his development. If, for instance, Mary scribbles small in a corner of her paper, it would be quite useless to tell her to scribble larger or cover the whole paper. Such suggestions do not enhance in her the freedom for larger motions, nor does it permit her to discover the meaningfulness of the area of the paper which is at her disposal. It would merely be a command, "Draw larger." For that, her frame of reference for motions needs to be enlarged. In this case the scribbling motion has to be extended to a more meaningful motion, the area on the paper to another area more meaningful to the child. In this case one could ask Mary, "Do you like to run around in your yard? Suppose this room is your yard. Show me how you would run around. Show me. Oh, you wouldn't run around just in this corner would you? Oh, you would run around all over the room!" Her motion of running has become meaningfully related to the area on which she is running. And then we will relate to the area on which she is running. And then we will refer to this extended frame of reference and will say, "Suppose this paper is the yard or the room, let's run around with our crayon on the paper." Suddenly the small motion will have become enlarged meaningfully because the large motion has now become meaningful to her. The area of the paper which apparently she disregarded previously has now become a meaningful area because running was more meaningful to her than using her crayon on the paper.

Fortunately, many of our children are free, not bound up with stereotypes. Johnny, for instance, can think of something because he has experienced something. As he thinks of it, his thoughts concentrate on the experience to be painted. His thought process, his ability to think for himself and concentrate on something, becomes stimulated. This initial intellectual process is an important part in creative activity. It is self-evident that he will include only those things which are important to him, of course—those things which he knows. Important to him, however, are only those things to which he has established a more or less sensitive relationship. Thus, his emotional relationships will be an important part in any creative process. We cannot establish any such emotional relationships unless we ourselves become involved. So may I give you a good suggestion for your classrooms: lose your puritan soul and just become emotional, freely.

We all know, especially those who work in the arts, that no creative process or product is possible without a basic experience, and it is here where we mainly fail in our teaching. No skill can ever replace the basic experience. You see, when a child says "I can't draw," well then, it should mean to you that the child has not had a basic experience on which he can base his creative process. You will say—what

will you say to Johnny who can't draw? What would you say? You don't know? Well, I'll give you the answer. Don't ever say, "Yes, you can draw, Johnny; why, try it, you can draw." This is no motivation whatsoever. If Johnny says, "I can't draw," he knows he can't draw. And you can't motivate him by telling him, "Yes, you can draw." He will only be frustrated. The same would be true if you would go to a physician, and you would say, "Doctor, I have a pain." And the doctor says, "Oh, you have no pain, you have no pain." This wouldn't help you. But what would the doctor do if you say, "I have a pain"? He would want to become, what? More inquisitive! What would he say? "Where does it hurt?" Yes? Sure! Never leave it with any generalities in your teaching. Generalizations to start with—though they may be a conclusion—are opposite to any creative process.

So we have to begin with specifics. And it is a generalization when Johnny says "I can't draw." In the same way that the doctor says, "Where does it hurt?" You say, "What do you want to draw?" Do you see? You want to become more specific. We want to find out, "What do you want to draw?" Now, well, Johnny would say, "Ummm? I, I don't know—anything." Now you have your diagnosis. What is your diagnosis? Johnny really doesn't have the urge to draw or the urge to create or the urge to paint, and therefore it is up to you to create an urge through a more sensitive relationship to a basic experience. What would you then do? You would do the same as a doctor does. If you say, "I have pain," he would say, "Where does it hurt?" and if you say "Ummm, I don't know, anywhere"—like Johnny says, "I want to draw anything," then he would start to pinch you, you know, here and there, until you all of a sudden say, "Oo, ouch!" And then he would find out, "Oh, it is here in this location, where it hurts." He will still not stop. He will now say, "Does this hurt more? Does this hurt more, this?" Have you ever been present at an examination or felt it on yourself? And then you say, "Oh, this hurts most." And then he has localized it, he now knows where he should start. He can make his diagnosis.

You do the same, if he says, "Um, I don't want to draw anything." You pinch him hard: you find out what experience he has had that was meaningful to him. It may have been meaningful to him that he was playing in the yard and fell on the gravel and hurt his knee. Or it may have been meaningful that he was eating an ice cream cone and got too much into his mouth, and it hurt his teeth. Any kind of a sensation may have become meaningful to him, but you have to find it out. You may now ask, "What did you do yesterday? What comes to your mind? Well?" "Umm, nothing," he might say; and you pinch him still harder, "Where were you yesterday, what did you do yesterday afternoon? What did you do, just remember, remember exactly, where were you?" "I was playing out in the backyard." Now you have him! He was playing out in the backyard; you see, you have already

hit a spot that was more sensitive, and now you focus the experience upon playing out in the backyard. Now, pull it out of him! Don't impose upon him. Find out what he did. "What did you do?" "Ummm, I was digging a hole." "Digging a hole? Why were you digging a hole?" And now you get into all the details: did he get his fingers dirty? "Oh, let me see your fingernails; I can see there is still some of the dirt there; did you dig it with your hands? How did you do it? How did you get the dirt out? What did you do? Oh, you helped Dad plant a tree!" Now you have the whole thing laid open, and the whole experience can now be gone over in detail.

I shall now in my motivation, when I have tapped the basic experience, try to find, to stimulate the child in his sensory experiences, what he has seen and felt as well as his ability to empathize, to put himself into the place of what he was doing or what others were doing. For instance, in the case of digging the hole and planting a tree, depending on the age of the child and the level of his development, my inquiry would change. If it were a child in the first grade, I could remain with his own activity, and I would motivate it to its greatest detail, so that he would become conscious, emotionally conscious, of himself. To give you an example of this, I would stimulate his body feelings. The child who previously may have drawn himself without fingers would now, by being stimulated in the use of his fingers for digging or holding the shovel, all of a sudden includes fingers. He has become more sensitive toward himself through his sensory experiences. Kinesthetic experiences are also sensory in nature, the experiences of body movements.

If he is at a more advanced developmental stage, of course I would ask him, "How did Father feel when he planted the tree? Why did he plant the tree there? How did he hold the tree? Did he dig the big hole? Did you just help him?" You see, then, when the child develops in his creative work not only himself but also his Daddy as a creative concept, he has to put himself into the place of Daddy. And this is a most significant factor in the education of children, because to identify with the needs of others is a most basic aspect for any future cooperation.

His painting, like that of all children, is not an objective representation. On the contrary, it expresses his likes, dislikes, his emotional relationship to his own world and the world which surrounds him. It also expresses not only what he knows but what he feels, sees, and touches, if he has become sensitive to it. Needless to say, the more sensitive relationships we establish toward experiences in general, the richer is our life. Johnny therefore has given us an intimate understanding through his painting of a type of relationship which he has established to the things he represented. Of course, as he grows, his relationships change; he will know more about things and his emotional interests also will shift. The greater the variety in his paint-

ings, the more flexible will he be in his relationships and vice versa. It must, however, be remembered that it is one of the most important tasks of the teacher to continually encourage and motivate such sensitive, rich, and flexible relationships.

Research done in the last few years by Heilman, Russell, Waugaman, and others on the influence of stereotypes in coloring and workbooks on the creativeness of children's drawings gains entirely new significance. For these stereotypes may not only thwart creativeness in the arts but thwart creativeness in general. According to these studies, it has been proven that the filling in of such stereotypes is detrimental to the child's creativeness. To be sure this does not mean that every child is affected this way but it does mean that, as far as our data are concerned, there is a significantly large possibility that the child's creativeness will be thwarted in the same way as contaminated water of a pond may affect some and not others; to recommend it as drinking water certainly would be absurd.

In order to understand the effects on children of coloring and work books which contain such repetitive stereotype forms, let us go through the process the child goes through while using them. And let us also find out the after effects which such a process may have on children. I do this, although I know that you all are on my side, but I do this for providing you with arguments in this very important issue.

Let us assume that the first picture the child has to fill in is that of a dog. As soon as the child is confronted with the task of following a predetermined outline, we have prevented him from solving his own relationship creatively. His relationship to a dog may be one of love, friendship, dislike, or fear. There is no opportunity for him to express his relationship and thus relieve himself of tensions, of joy, of hatred, or of fear. There is no place in the coloring books to express anxieties. There is not even a place for the individual differences of Johnny and Mary. In filling in the outline drawing, they are regimented into the same type of activity with no provision for spontaneous flexibility or differences as individuals. There is no place for originality. Of course, some children, unaware of all these implications and by nature somewhat insecure, enjoy coloring the dog. But as they color it with crayon they realize that they could never have drawn a dog as well as the one in the coloring book. They may even be very proud when they are through with their activity. After all, they have colored the dog. Next time in school or elsewhere, when one of these children is asked to draw something, he remembers the dog in the coloring book; realizing that he could not compete, he says quite logically, "I can't draw." I've heard many teachers or parents say, "But my children love coloring books." This is quite true. Children, however, do not differentiate or discriminate between things good for them and things detrimental. That they love things is not always an indication that they are good for them. Most children prefer sweets to vegetables and

without doubt would always prefer them. This, however, does not mean that we should adjust their diet to sweets. Children, once conditioned to overprotection, love it, too! In fact, they may become so dependent on it they can no longer enjoy their freedom. In countless cases, I have seen parents doing everything for their children: children who simply stretch out their leg and their shoe is laced, and then turn around and their hair is combed, almost automatically. These are the children who mostly sit in the midst of their toys and don't know what to do with them or who go to camp and sit lonely in a corner and cry while others enjoy their freedom and play. It has been proven that many children, once conditioned to coloring books, will have difficulty in enjoying their freedom. The dependency which such methods create indeed is devastating.

Some teachers may still tell you that with the coloring book the child learns the discipline of staying within the lines of a given picture area. It has also been proved by experiment that this is not true at all. More children color beyond the given boundaries in coloring books, than in objects they have chosen themselves. If Johnny draws his dog, he has much more incentive to remain within his boundaries than if he colors a dog in a coloring book to which he has obviously no relationship whatsoever. We also know that workbooks very often work in this direction, and here I refer to workbooks in subjects other than art, as in reading or in arithmetic. Yes, here too, we are confronted with situations which are not the child's own situations. For instance, if a child has to produce many kittens in order to learn a number concept, "Draw eight kittens like the one at the left," then the child has to draw eight kittens, like the one on the left, consisting of one large circle and a little circle on top and so forth, a simplified form of a kitten. Now this certainly produces a stereotype relationship to a kitten and not a flexible one. Now we should be aware that we should not submit to such workbook habits. Even schools that use these, should use only the part that is good; but when it comes to repetitive drawings, like drawing eight kittens, eight kittens like the one at the left, you can invent a story. "There was a cat. One day this cat became very restless and looked around and looked around; maybe it wanted to find a place where it could sit down. We found out that this cat apparently expected a family. So she wanted to have her children secure. So she was searching for a little place and she found it. There we placed a little box with a pillow in it, and she went right into it. And you know what happened? When we came the next day, there were eight little kittens in there! Have you ever seen little kittens when they were born? They are so tiny. Have you felt them? Have you felt them? Have you looked into their eyes, Johnny? Mary? Jo Ann? You didn't? Because their eyes were closed. You know, kittens can't see when they are small. Now maybe we can visit some kittens sometime. Let's see if we can draw

when our cat got her eight little kittens." That is a number concept and each child will introduce his own concept, his own sensitive relationship to the kittens which the child has established himself, not the regimented relationship which adults have imposed upon him.

I have tried to demonstrate to you how such imitative procedures as found in coloring and workbooks may make the child dependent in his thinking because they do not give him the flexibility, originality, and freedom to create; how they may make the child inflexible because they make him follow a given outline; how they do not provide emotional release; how they condition the child to adult concepts which he can not produce alone, and which therefore frustrate his own creative condition. I've been discussing these detrimental methods in such detail because they are so widely used that they constitute the most serious threat to the creativeness of children.

Any regimentation of thought or emotions plays directly into that kind of regime which we would never like to come to our shores: totalitarian regime. Only there do individuals have no possibility to identify with their own individual needs. Only there do they have to succumb to mass treatment. But in how many schools do we see that our children are regimented in thought and emotions and relationships? Well you see, there are the flaws in our education, and we have to get rid of them, and unless we do, we will not be able to see our children grow more happily than we.

While we don't have extremely rigid children in our classrooms, children who are unable at all to adjust to new situations and are completely bound up with stereotypes, we do have children who are in one way or another more or less close to this kind of behavior. Most of our children are normal children, but also normal children need to grow as a whole, not merely intellectually through learning. They need to grow as integrated human beings so that when they grow up and become citizens of this great country, they will contribute as well-balanced human beings.

64